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1955  
Report of Alfalfa Nurseries  
Eastern Alfalfa Improvement Conference

Conducted cooperatively with the various  
State Agricultural Experiment Stations  
and  
The United States Department of Agriculture,  
Agricultural Research Service, Field Crops  
Research Branch in eastern United States

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1955  
Report of Alfalfa Nurseries  
Eastern Alfalfa Improvement Conference

Report compiled by H. O. Graumann, Research Agronomist, Field Crops Research Branch, Agricultural Research Service, U.S. Department of Agriculture.

INTRODUCTION

This, the first Alfalfa Nurseries Report assembled by the Eastern Alfalfa Improvement Conference Group, represents the inauguration of the plan of reporting results from alfalfa tests on a regional rather than a continental basis as voted by the Alfalfa Improvement Conference at Raleigh, North Carolina in 1952.

Reports submitted by the various States comprise data from an array of alfalfa breeding materials and varieties. The data in this compilation are inconclusive and represent progress reports only, and as such, may contain findings which may or may not be verified in subsequent experiments. Data reported, and statements contained herein, do not constitute publication. For this reason, citation to any part of this Report should not be published without prior permission from the Experiment Station(s) and worker(s) concerned.

## CONNECTICUT

Table 1 - Alfalfa Variety Test - Storrs  
Seeded - August 1950 Results on Agronomy Farm

| Variety                     | Stand<br>9/15/55 <sup>1</sup> /<br>Percent | Wilt<br>8/18/54 <sup>2</sup> /<br>Percent | Yields of<br>dry matter 1955<br>(cwt./Acre) <sup>3</sup> /<br>2nd and 3rd cuts |       |
|-----------------------------|--------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------|-------|
|                             |                                            |                                           | 3rd cuts                                                                       | Total |
| Ranger - "Commercial"       | 58                                         | trace                                     | 37                                                                             | 85    |
| Ranger - Calapproved        | 63                                         | 3                                         | 41                                                                             | 85    |
| Ranger - Certified          | 72                                         | 2                                         | 39                                                                             | 81    |
| Buffalo - Calapproved       | 53                                         | 4                                         | 36                                                                             | 78    |
| Buffalo - Certified         | 43                                         | 1                                         | 36                                                                             | 77    |
| Kansas - "Commercial"       | 50                                         | 3                                         | 31                                                                             | 75    |
| Buffalo - from Certified    | 30                                         | 7                                         | 33                                                                             | 75    |
| Northwestern - "Commercial" | 30                                         | 12                                        | 30                                                                             | 74    |
| Atlantic - Certified        | 25                                         | 11                                        | 32                                                                             | 72    |
| Buffalo - "Commercial"      | 30                                         | 5                                         | 30                                                                             | 71    |
| Kansas Common               | 25                                         | 10                                        | 27                                                                             | 67    |
| Viking - Saskatchewan       | 25                                         | 7                                         | 32                                                                             | 67    |
| Rhizoma - British Columbia  | 7                                          | 13                                        | 26                                                                             | 66    |
| Narragansett - Rhode Island | 7                                          | 20                                        | 25                                                                             | 65    |
| Common - "Hardy"            | 5                                          | 8                                         | 23                                                                             | 62    |
| Variegated - 1946 seed      | 9                                          | 10                                        | 21                                                                             | 62    |
| Buffalo - 1945 seed         | 15                                         | 12                                        | 24                                                                             | 61    |
| Talent - "Commercial"       | 4                                          | 25                                        | 20                                                                             | 61    |
| Grimm - Utah                | 6                                          | 18                                        | 22                                                                             | 61    |
| Oklahoma - "Approved"       | 6                                          | 15                                        | 21                                                                             | 60    |
| Grimm - "Commercial"        | 1                                          | 38                                        | 19                                                                             | 56    |
| Variegated - Utah           | 4                                          | 38                                        | 21                                                                             | 54    |
| Utah Common                 | 4                                          | 20                                        | 16                                                                             | 52    |

<sup>1</sup>/Estimated percentages.

<sup>2</sup>/Many varieties had too poor stands to estimate wilt in 1955.

<sup>3</sup>/Includes volunteer grasses and weeds. Three cuttings were made in 1955: June 10, July 27, and September 16.



CONNECTICUT

NOT FOR PUBLICATION

Table 2 - Alfalfa Variety Test - Storrs

| Seeding - August 1951   |          | Results on Agronomy Farm                  |                                          |                                                  |
|-------------------------|----------|-------------------------------------------|------------------------------------------|--------------------------------------------------|
| Variety                 |          | Stand <sup>1/</sup><br>7/22/55<br>Percent | Wilt <sup>2/</sup><br>7/22/55<br>Percent | Total<br>dry matter <sup>3/</sup><br>(cwt./acre) |
| 07E-C57                 |          | 71                                        | 2                                        | 65                                               |
| 07E-C188                |          | 73                                        | 2                                        | 63                                               |
| 07E-C183                |          | 59                                        | 5                                        | 62                                               |
| 07E-C190                |          | 64                                        | 3                                        | 60                                               |
| 07E-C223                |          | 63                                        | 2                                        | 60                                               |
| 07E-C130                |          | 78                                        | trace                                    | 59                                               |
| 07E-C54                 |          | 70                                        | 4                                        | 57                                               |
| 07E-C195                |          | 64                                        | 3                                        | 57                                               |
| 07E-C79                 |          | 75                                        | 3                                        | 56                                               |
| 07E-C191                |          | 71                                        | 2                                        | 55                                               |
| 07E-C187                |          | 65                                        | 5                                        | 55                                               |
| Ranger                  |          | 50                                        | 8                                        | 54                                               |
| 07E-C199                |          | 63                                        | 6                                        | 54                                               |
| 07E-C197                |          | 50                                        | 6                                        | 51                                               |
| 07E-C144                |          | 54                                        | 3                                        | 51                                               |
| 07E-C184                |          | 54                                        | 9                                        | 51                                               |
| 07E-C180                |          | 42                                        | 17                                       | 49                                               |
| Buffalo                 | FC.24190 | 49                                        | 11                                       | 47                                               |
| Ranger                  | FC.24189 | 48                                        | 17                                       | 45                                               |
| Buffalo                 |          | 33                                        | 13                                       | 45                                               |
| Nomad                   | FC.24044 | 30                                        | 23                                       | 41                                               |
| Williamsburg            | FC.24152 | 18                                        | 31                                       | 39                                               |
| Kansas Common           | FC.24072 | 29                                        | 19                                       | 39                                               |
| Atlantic                |          | 18                                        | 33                                       | 36                                               |
| Narragansett            |          | 17                                        | 29                                       | 36                                               |
| Talent                  | FC.24026 | 6                                         | 53                                       | 32                                               |
| Grimm - Commercial      |          | 7                                         | 58                                       | 30                                               |
| Variegated - Commercial |          | 4                                         | 49                                       | 29                                               |
| Chilean                 | FC.23669 | 5                                         | 49                                       | 25                                               |
| Du Puits                | FC.24105 | 1                                         | 63                                       | 16                                               |

<sup>1/</sup> Estimated percentages.

<sup>2/</sup> Estimated percentages of remaining plants.

<sup>3/</sup> Averages of quadruplicated, 20 ft x 5 ft plots and include volunteer weeds and grasses. There were two cuttings in 1955: June 14 and August 1.

Alfalfa Variety Test - 1953-1955 - Experiment  
Georgia Experiment Station

| Variety              | Hay yields - Tons/A (oven dry basis) |      |      |         |
|----------------------|--------------------------------------|------|------|---------|
|                      | 1953                                 | 1954 | 1955 | Average |
| Talent               | 3.00                                 | 3.08 | 4.84 | 3.64    |
| North Carolina Syn-B | 2.41                                 | 3.77 | 4.60 | 3.59    |
| Syn-A-218            | 2.46                                 | 3.88 | 4.07 | 3.47    |
| Pilca Butta          | 2.40                                 | 3.92 | 3.90 | 3.41    |
| Grimm                | 2.63                                 | 3.07 | 4.43 | 3.38    |
| Sevelra              | 2.75                                 | 3.14 | 4.15 | 3.35    |
| Rhizoma              | 2.49                                 | 2.87 | 4.50 | 3.29    |
| San Martin           | 2.76                                 | 3.65 | 3.42 | 3.28    |
| North Carolina Syn-A | 2.21                                 | 3.09 | 4.14 | 3.15    |
| Narragansett         | 2.40                                 | 3.11 | 3.78 | 3.10    |
| Arizona Chilean      | 2.47                                 | 3.31 | 3.45 | 3.08    |
| Syn-A-225            | 2.26                                 | 3.05 | 3.78 | 3.03    |
| Uruguay Clone 10     | 2.30                                 | 3.21 | 3.54 | 3.02    |
| Buffalo              | 1.90                                 | 2.73 | 4.28 | 2.97    |
| Ranger               | 2.42                                 | 2.85 | 3.61 | 2.96    |
| Friuli               | 2.23                                 | 2.89 | 3.63 | 2.92    |
| Atlantic             | 2.05                                 | 2.91 | 3.58 | 2.85    |
| Williamsburg         | 1.97                                 | 3.16 | 3.39 | 2.84    |
| Caliverde            | 2.14                                 | 2.98 | 3.30 | 2.81    |
| Kansas Common        | 1.96                                 | 2.98 | 3.42 | 2.79    |
| Du Puits             | 1.64                                 | 3.03 | 3.10 | 2.59    |
| Southwest Common     | 1.45                                 | 2.46 | 3.34 | 2.42    |
| African              | 2.01                                 | 2.67 | 2.00 | 2.23    |
| Nemastan             | 1.30                                 | 2.06 | 3.28 | 2.21    |
| Nomad                | 1.11                                 | 1.88 | 1.95 | 1.65    |

Rainfall during growing season -

Inches      21.20    18.81    32.07      24.03

Date seeded: September 30, 1952

Size of plots: 3 x 17 feet, 3 rows, 1 ft. apart.

Number of replications: Four

Fertilizer: 600 pounds 6-8-6 per acre

Lime: One ton limestone. Fertilizer and lime  
harrowed in before planting.

Dates of harvesting: 1953 - April 24 (data discarded  
on account of weeds) May 29,  
July 10, August 12.  
1954 - April 30, June 22, August 5.  
1955 - April 1, May 6, June 9,  
July 16, August 18.

Additional fertilizer applied as topdressing:

June 29, 1954 - 800 pounds 4-12-12 per acre

May 10, 1955 - 500 pounds 0-12-12 per acre.

KENTUCKY

Table 1 - Alfalfa Variety Trial - Lexington

Planted April 18, 1951  
Six replications

Randomized Block Design  
Plots 5 ft x 35 ft

| Variety                       | Accession number | Yield - tons dry matter/Acre |                        |                        | Seasonal Totals |                |                |                | Yearly Average |
|-------------------------------|------------------|------------------------------|------------------------|------------------------|-----------------|----------------|----------------|----------------|----------------|
|                               |                  | 1st cutting<br>5/20/55       | 2nd cutting<br>7/11/55 | 3rd cutting<br>8/24/55 | 1955<br>3 cuts  | 1954<br>4 cuts | 1953<br>3 cuts | 1952<br>3 cuts |                |
| Atlantic-California certified | 89-L1-15         | 1.12                         | 1.51                   | 1.33                   | 3.96            | 4.37           | 3.99           | 3.08           | 3.85           |
| Ranger-California certified   | 89-L1-12         | 1.02                         | 1.37                   | 1.24                   | 3.63            | 4.14           | 3.47           | 2.25           | 3.37           |
| Ranger-Montana certified      | 89-L1-11         | 0.93                         | 1.51                   | 1.29                   | 3.73            | 4.15           | 3.43           | 2.27           | 3.40           |
| Buffalo-California certified  | 89-L1-13         | 0.92                         | 1.64                   | 1.30                   | 3.86            | 4.22           | 3.62           | 2.23           | 3.48           |
| Buffalo-Kansas certified      | 89-L1-14         | 1.01                         | 1.46                   | 1.32                   | 3.79            | 4.21           | 3.63           | 2.22           | 3.46           |
| Argentine California          | FC.23187         | 0.96                         | 0.96                   | 0.92                   | 2.84            | 3.44           | 3.48           | 1.95           | 2.93           |
| California Common #1          | 09-L1-6          | 0.59                         | 0.97                   | 1.05                   | 2.61            | 3.38           | 2.53           | 1.14           | 2.41           |
| California Common #2          | 09-L1-4          | 0.56                         | 0.86                   | 0.82                   | 2.24            | 2.62           | 2.33           | 1.13           | 2.08           |
| California Common #3          | 09-L1-5          | 0.88                         | 1.15                   | 1.25                   | 3.28            | 4.03           | 3.13           | 1.86           | 3.07           |
| African                       | 09-L1-16         | 0.20                         | 0.29                   | 0.38                   | 0.87            | 1.64           | 0.96           | 0.45           | 0.98           |
| L.S.D. .05                    |                  | 0.15                         | 0.33                   | 0.16                   | 0.47            | 0.50           | 0.47           | 0.23           | 0.33           |
| .01                           |                  | 0.20                         | 0.44                   | 0.22                   | 0.63            | 0.67           | 0.62           | 0.31           | 0.43           |
| C.V. (Percent)                |                  | 11.8                         | 18.8                   | 18.0                   | 7.6             |                |                |                | 19.2           |

## KENTUCKY

Table 2 - Alfalfa Variety Trial - Lexington

Planted February 19, 1954  
Four replicationsRandomized Block Design  
Plots 5 ft x 27 ft

| Variety             | Accession<br>number | Yield in Tons dry<br>matter/Acre |                    |                    |       | Cold<br>damage <sup>1/</sup><br>4/6/55 |
|---------------------|---------------------|----------------------------------|--------------------|--------------------|-------|----------------------------------------|
|                     |                     | 1st                              | 2nd                | 3rd                | Total |                                        |
|                     |                     | cutting<br>5/20/55               | cutting<br>7/11/55 | cutting<br>8/24/55 |       |                                        |
| Orestan             | FC.23910            | 0.52                             | 1.20               | 0.85               | 2.57  | 5.0                                    |
| Vernal              | FC.24790            | 0.77                             | 1.68               | 1.07               | 3.52  | 2.5                                    |
| Atlantic            | FC.24804            | 0.70                             | 1.57               | 1.11               | 3.38  | 4.0                                    |
| Narragansett        | FC.24645            | 0.94                             | 1.63               | 1.09               | 3.66  | 1.0                                    |
| Buffalo             | FC.24864            | 0.89                             | 1.44               | 1.06               | 3.39  | 5.0                                    |
| Du Puits            | FC.24697            | 0.84                             | 1.64               | 1.13               | 3.61  | 5.5                                    |
| Ranger              | FC.24802            | 0.69                             | 1.44               | 0.96               | 3.09  | 4.5                                    |
| Williamsburg        | FC.24803            | 0.57                             | 1.46               | 1.17               | 3.20  | 5.0                                    |
| Talent              | FC.24702            | 0.31                             | 0.79               | 0.53               | 1.63  | 7.5                                    |
| Rhizoma             | FC.24798            | 0.71                             | 1.38               | 0.94               | 3.03  | 1.0                                    |
| Flamande-Socheville | PI.205,890          | 0.57                             | 1.41               | 1.10               | 3.08  | 6.5                                    |
| Sevelra             | FC.24364            | 0.49                             | 1.06               | 0.57               | 2.12  | 3.5                                    |
| Oklahoma Common     | FC.23661            | 0.68                             | 1.29               | 1.09               | 3.06  | 5.0                                    |
| Ferax               | 39-L1-19            | 0.67                             | 1.33               | 0.93               | 2.93  | 1.0                                    |
| Nemastan            | 37-L1-20            | 0.40                             | 0.57               | 0.23               | 1.20  | 7.5                                    |
| Kansas Common       | FC.23391            | 0.43                             | 1.25               | 0.81               | 2.49  | 6.0                                    |
| <hr/>               |                     |                                  |                    |                    |       |                                        |
| L.S.D.              | .05                 | 0.29                             | 0.31               | 0.29               | 0.71  | 1.03                                   |
|                     | .01                 | 0.38                             | 0.42               | 0.39               | 0.95  | 1.37                                   |
| C.V. (Percent)      |                     | 31.8                             | 16.7               | 22.6               | 10.1  | 14.2                                   |

<sup>1/</sup> Cold damage ratings 1,3,5,7,9 with 1=least damage. Average of four replications. The following varieties were very severely damaged by the freeze, and harvest data were not recorded:

|                   |          |     |
|-------------------|----------|-----|
| Pilca Butta       | FC.24891 | 9.0 |
| Nomad             | FC.24687 | 4.0 |
| Caliverde         | 39-L1-18 | 8.5 |
| California Common | 39-L1-17 | 9.0 |



Table 3 - Alfalfa Variety Trial - Shelby County

Planted April 29, 1953  
Four replications

Randomized Block Design  
Plots 10 ft x 52 ft

| Variety         | Accession number | Yield-Tons dry matter/Acre |                    |                    |                |                |        |
|-----------------|------------------|----------------------------|--------------------|--------------------|----------------|----------------|--------|
|                 |                  | 1st                        | 2nd                | 3rd                | Total          | Total          | Yearly |
|                 |                  | cutting<br>5/18/55         | cutting<br>6/29/55 | cutting<br>8/18/55 | 1955<br>3 cuts | 1954<br>4 cuts |        |
| Atlantic        | FC.24189         | 1.28                       | 1.05               | 1.37               | 3.70           | 3.30           | 3.50   |
| Ranger          | 29-L1-9          | 1.14                       | 1.09               | 1.13               | 3.36           | 3.28           | 3.32   |
| Williamsburg    | 29-L1-2          | 1.20                       | 1.21               | 1.34               | 3.75           | 3.42           | 3.59   |
| Rhizoma         | 09-L1-3          | 1.39                       | 1.12               | 1.15               | 3.66           | 3.02           | 3.34   |
| Du Puits        | FC.24697         | 1.21                       | 1.14               | 1.12               | 3.47           | 3.39           | 3.43   |
| Buffalo         | FC.23350         | 1.19                       | 1.13               | 1.26               | 3.58           | 3.45           | 3.52   |
| Oklahoma Common | FC.23661         | 1.12                       | 1.09               | 1.46               | 3.67           | 3.18           | 3.43   |
| Kansas Common   | FC.24072         | 1.16                       | 1.18               | 1.32               | 3.66           | 3.33           | 3.50   |
| Narragansett    | FC.24655         | 1.30                       | 1.27               | 1.23               | 3.80           | 3.27           | 3.54   |
| L.S.D. .05      |                  | N.S.                       | N.S.               | N.S.               | N.S.           | N.S.           | N.S.   |
| .01             |                  | N.S.                       | N.S.               | N.S.               | N.S.           | N.S.           | N.S.   |
| C.V. (Percent)  |                  | 11.0                       | 12.54              | 13.78              | 4.06           |                | 8.72   |

Table 4 - Alfalfa Variety Trial - La Grange

Planted April 23, 1953  
Four replications

Randomized Block Design  
Plots 10 ft x 52 ft

| Variety         | Accession number | Yield-Tons dry matter/Acre |                   |                    |                |                |        |
|-----------------|------------------|----------------------------|-------------------|--------------------|----------------|----------------|--------|
|                 |                  | 1st                        | 2nd               | 3rd                | Total          | Total          | Yearly |
|                 |                  | cutting<br>5/27/55         | cutting<br>7/5/55 | cutting<br>8/25/55 | 1955<br>3 cuts | 1954<br>3 cuts |        |
| Ranger          | 29-L1-9          | 1.61                       | 1.16              | 0.93               | 3.70           | 2.91           | 3.30   |
| Buffalo         | FC.23350         | 1.42                       | 1.26              | 1.11               | 3.79           | 2.68           | 3.24   |
| Atlantic        | FC.24188         | 1.66                       | 1.16              | 0.93               | 3.75           | 2.90           | 3.32   |
| Williamsburg    | 29-L1-2          | 1.53                       | 1.37              | 1.06               | 3.96           | 2.97           | 3.47   |
| Kansas Common   | FC.24072         | 1.41                       | 1.30              | 1.12               | 3.83           | 2.80           | 3.32   |
| Narragansett    | FC.24655         | 1.53                       | 1.27              | 1.11               | 3.91           | 3.15           | 3.53   |
| Rhizoma         | 09-L1-3          | 1.39                       | 1.14              | 1.14               | 3.67           | 2.84           | 3.26   |
| Du Puits        | FC.24697         | 1.53                       | 1.45              | 0.99               | 3.97           | 3.39           | 3.68   |
| Nomad           | 29-L1-1          | 1.71                       | 1.05              | 0.77               | 3.53           | 2.42           | 2.98   |
| Oklahoma Common | FC.23661         | 1.50                       | 1.26              | 1.12               | 3.88           | 2.86           | 3.37   |
| L.S.D. .05      |                  | 0.18                       | 0.20              | 0.22               | N.S.           | 0.33           | 0.30   |
| .01             |                  | 0.24                       | 0.27              | N.S.               | N.S.           | 0.45           | 0.40   |
| C.V. (Percent)  |                  | 12.06                      | 10.92             | 14.9               | 4.02           | 4.54           | 5.00   |

3 replications, 7 plants per plot, 9 plots per row  
34 inch rows. Transplanted May 11, 1954 in Field SB 1  
Data reported are for 1955

(continued)

## Maryland      Beltsville

Table 1 - 1954 Clonal Nursery - Beltsville - Continued

| Entry          | Original: Spring |          | Fall    |          | Density |          | Height  |          | Vigor   |          | Habit   |          | Green   |          | Flower  |                  | Yellowing |          |
|----------------|------------------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|------------------|-----------|----------|
|                | plants           | in % of  | plants  | in % of  | plants  | in % of  | plants  | in % of  | plants  | in % of  | plants  | in % of  | plants  | in % of  | plants  | in % of          | plants    | in % of  |
|                | number           | original | number  | original | number  | original | number  | original | number  | original | number  | original | number  | original | number  | original         | number    | original |
|                | 4/19/55          | 11/2/55  | 5/11/55 | 5/11/55  | 4/19/55 | 11/2/55  | 5/11/55 | 5/11/55  | 4/19/55 | 11/2/55  | 5/11/55 | 5/11/55  | 4/19/55 | 11/2/55  | 5/11/55 | 5/11/55          | 4/19/55   | 11/2/55  |
| 322 Belts      | 20               | 100      | 80      | 4.0      | 1.0     | 4.0      | 4.0     | 4.0      | 4.7     | 2.3      | 2.3     | 2.0      | 2.0     | 2.3      | 2.0     | Purple           | 3.3       | 3.3      |
| 338 "          | 17               | 94       | 94      | 4.0      | 1.0     | 4.0      | 4.0     | 4.0      | 4.7     | 2.0      | 2.0     | 1.3      | 1.3     | 2.0      | 1.3     | "                | 3.0       | 3.0      |
| 339 "          | 13               | 92       | 92      | 11.3     | 1.7     | 4.0      | 4.0     | 4.0      | 3.7     | 3.7      | 3.7     | 2.0      | 2.0     | 2.0      | 2.0     | "                | 5.0       | 5.0      |
| 344 "          | 21               | 100      | 100     | 4.0      | 1.0     | 4.0      | 3.0     | 3.0      | 4.3     | 2.0      | 2.0     | 2.3      | 2.3     | 2.0      | 2.3     | "                | 5.3       | 5.3      |
| 349 "          | 7                | 100      | 71      | 4.0      | 1.0     | 4.0      | 4.3     | 4.3      | 4.7     | 2.3      | 2.3     | 2.7      | 2.7     | 2.3      | 2.7     | "                | 4.3       | 4.3      |
| 417 "          | 17               | 65       | 6       | 8.0      | 6.0     | 7.7      | 7.7     | 7.7      | 8.3     | 3.0      | 3.0     | 5.0      | 5.0     | 3.0      | 5.0     | Yellow           | 1.0       | 1.0      |
| 1917 Neb       | 17               | 100      | 100     | 4.3      | 2.3     | 4.0      | 4.0     | 4.0      | 3.7     | 2.0      | 2.0     | 2.0      | 2.0     | 2.0      | 2.0     | Purple           | 2.3       | 2.3      |
| Pa 1 51A-542-  |                  |          |         |          |         |          |         |          |         |          |         |          |         |          |         |                  |           |          |
| 11-5(10)       | 20               | 100      | 100     | 18.0     | 1.7     | 5.0      | 5.0     | 5.0      | 3.3     | 3.7      | 3.7     | 5.0      | 5.0     | 3.7      | 5.0     | Purple           | 3.0       | 3.0      |
| Pa 2 51A-516-  |                  |          |         |          |         |          |         |          |         |          |         |          |         |          |         |                  |           |          |
| 7-15(5)        | 19               | 95       | 79      | 12.0     | 4.3     | 5.3      | 5.3     | 5.3      | 4.7     | 3.7      | 3.7     | 2.3      | 2.3     | 2.3      | 2.3     | Variegated       | 2.0       | 2.0      |
| Pa 3 51A-503-  |                  |          |         |          |         |          |         |          |         |          |         |          |         |          |         |                  |           |          |
| 7-7(6)         | 12               | 100      | 100     | 22.3     | 5.0     | 4.7      | 4.7     | 4.7      | 4.7     | 2.7      | 2.7     | 2.3      | 2.3     | 2.3      | 2.3     | "                | 2.0       | 2.0      |
| Pa 4 51A-524-  |                  |          |         |          |         |          |         |          |         |          |         |          |         |          |         |                  |           |          |
| 7-8(7)         | 17               | 100      | 94      | 5.3      | 2.3     | 3.3      | 3.3     | 3.3      | 4.0     | 2.3      | 2.3     | 1.7      | 1.7     | 2.3      | 1.7     | Purple           | 3.0       | 3.0      |
| Pa 5 51A-505 - |                  |          |         |          |         |          |         |          |         |          |         |          |         |          |         |                  |           |          |
| 7-15(2)        | 7                | 100      | 86      | 15.0     | 5.0     | 5.0      | 5.0     | 5.0      | 4.5     | 3.5      | 3.5     | 3.5      | 3.5     | 3.5      | 3.5     | ---              | 2.5       | 2.5      |
| Pa 6 51A-504-  |                  |          |         |          |         |          |         |          |         |          |         |          |         |          |         |                  |           |          |
| 7-9(7)         | 13               | 85       | 46      | 12.7     | 6.3     | 5.7      | 5.7     | 5.7      | 5.7     | 3.3      | 3.3     | 3.0      | 3.0     | 3.0      | 3.0     | Dark variegated  | 1.3       | 1.3      |
| Pa 7 51A-513-  |                  |          |         |          |         |          |         |          |         |          |         |          |         |          |         |                  |           |          |
| 7-16(10)       | 9                | 78       | -       | 15.0     | 5.5     | 7.5      | 7.5     | 7.5      | 7.5     | 3.0      | 3.0     | 7.0      | 7.0     | 7.0      | 7.0     | ---              | -         | -        |
| Pa 8 51A-511-  |                  |          |         |          |         |          |         |          |         |          |         |          |         |          |         |                  |           |          |
| 7-12(7)        | 8                | 100      | 88      | 10.0     | 1.5     | 3.5      | 3.5     | 3.5      | 3.0     | 2.0      | 2.0     | 2.5      | 2.5     | 2.5      | 2.5     | Dark purple      | 2.0       | 2.0      |
| 236 Minn       | 15               | 100      | 100     | 4.0      | 1.0     | 4.7      | 4.7     | 4.7      | 4.3     | 3.0      | 3.0     | 1.7      | 1.7     | 3.0      | 1.7     | Purple           | 5.3       | 5.3      |
| 240 "          | 17               | 100      | 100     | 4.0      | 1.0     | 4.0      | 4.0     | 4.0      | 5.0     | 2.0      | 2.0     | 2.3      | 2.3     | 2.0      | 2.3     | "                | 4.0       | 4.0      |
| 244 "          | 19               | 100      | 11      | 10.0     | 4.0     | 6.0      | 6.0     | 6.0      | 5.3     | 5.0      | 5.0     | 2.0      | 2.0     | 5.0      | 2.0     | Light variegated | 1.3       | 1.3      |
| 246 "          | 15               | 100      | 13      | 6.7      | 4.3     | 5.3      | 5.3     | 5.3      | 5.3     | 2.7      | 2.7     | 3.0      | 3.0     | 2.7      | 3.0     | Yellow           | 1.7       | 1.7      |
| 247 "          | 17               | 100      | 76      | 4.7      | 1.0     | 5.3      | 5.3     | 5.3      | 5.0     | 4.0      | 4.0     | 3.7      | 3.7     | 4.0      | 3.7     | Yellow           | 1.7       | 1.7      |
| 252 "          | 11               | 91       | 9       | 10.0     | 5.5     | 7.0      | 7.0     | 7.0      | 7.0     | 2.5      | 2.5     | 4.5      | 4.5     | 2.5      | 4.5     | -                | 8.0       | 8.0      |
| 262 "          | 12               | 75       | 8       | 4.3      | 2.7     | 7.3      | 7.3     | 7.3      | 8.0     | 2.7      | 2.7     | 4.7      | 4.7     | 2.7      | 4.7     | -                | 1.0       | 1.0      |
| 264 "          | 21               | 100      | 75      | 4.0      | 1.0     | 4.0      | 4.0     | 4.0      | 5.0     | 2.0      | 2.0     | 2.3      | 2.3     | 2.0      | 2.3     | Purple           | 8.0       | 8.0      |

(Continued)



NOT FOR PUBLICATION

MARYLAND - Beltsville

Table 1 - 1945 Clonal Nursery - Continued

| Entry        | :Original<br>:plants<br>:number | :Spring<br>:in % of<br>:original | :Fall<br>:in % of<br>:original | :Spread<br>:inches | :Density<br>:5/11/55 | :Height<br>:17/55 | :Vigor<br>:17/55 | :Habit<br>:6/22/55 | :Green<br>:color | :Flower<br>:color | :Yellowing<br>:all<br>:causes |
|--------------|---------------------------------|----------------------------------|--------------------------------|--------------------|----------------------|-------------------|------------------|--------------------|------------------|-------------------|-------------------------------|
|              |                                 |                                  |                                | :5/11/55           |                      |                   |                  |                    |                  |                   | :7/26/55                      |
| 265 Minn     | 18                              | 100                              | 72                             | 4.0                | 3.3                  | 5.0               | 5.3              | 3.0                | 5.0              | Purple            | 5.3                           |
| 268 "        | 20                              | 100                              | 30                             | 4.7                | 1.0                  | 5.0               | 5.3              | 2.7                | 3.7              | "                 | 2.7                           |
| 269 "        | 15                              | 93                               | 80                             | 4.0                | 1.0                  | 4.0               | 4.7              | 2.7                | 2.0              | Light purple      | 3.3                           |
| 275 "        | 18                              | 94                               | 94                             | 5.0                | 1.0                  | 4.0               | 4.3              | 2.0                | 2.3              | Purple            | 4.3                           |
| 277 "        | 20                              | 100                              | 70                             | 4.3                | 1.0                  | 4.0               | 4.3              | 2.0                | 3.0              | Light purple      | 2.7                           |
| 278 "        | 18                              | 100                              | 72                             | 4.0                | 1.0                  | 5.0               | 5.3              | 3.0                | 1.7              | "                 | 1.3                           |
| 281 "        | 18                              | 100                              | 89                             | 7.3                | 1.0                  | 3.7               | 3.7              | 2.3                | 2.3              | Purple            | 5.3                           |
| 282 "        | 16                              | 81                               | 81                             | 4.0                | 1.0                  | 3.7               | 4.7              | 2.0                | 2.3              | "                 | 5.0                           |
| Narragansett | 20                              | 95                               | 40                             | 5.7                | 2.3                  | 3.7               | 4.0              | 2.0                | 2.7              | "                 | 6.0                           |
| Ranger       | 18                              | 100                              | 61                             | 4.0                | 1.0                  | 3.7               | 5.0              | 2.0                | 4.0              | "                 | 8.0                           |
| Buffalo      | 18                              | 100                              | 89                             | 4.0                | 1.0                  | 3.0               | 4.3              | 2.0                | 2.7              | "                 | 8.0                           |



## MARYLAND - Beltsville

Table 2 - 1935 Species Nursery - Beltsville  
 40 plants per plot, non-replicated, 12 inches between plants  
 36 inches between rows. Checks 12 plants per plot started  
 from seed in Greenhouse. Transplanted May 5, 1953  
 Field SB 1. Data reported are for 1955

| Entry        | Number of<br>original<br>plants | Survival<br>in % of<br>original<br>4/19/55 | Survival<br>in % of<br>original<br>11/2/55 | Height<br>7/26/55 | Vigor<br>of<br>growth<br>7/26/55 | Yellowing<br>all<br>causes<br>7/26/55 |
|--------------|---------------------------------|--------------------------------------------|--------------------------------------------|-------------------|----------------------------------|---------------------------------------|
| PI.151,167   | 36                              | 18 50                                      | 3 8                                        | All               | All                              | All                                   |
| PI.151,702   | 37                              | 31 84                                      | 19 51                                      | about             | about                            | about                                 |
| PI.155,286   | 40                              | 33 83                                      | 18 45                                      | 3                 | 2                                | 8                                     |
| PI.155,287   | 37                              | 36 97                                      | 14 38                                      | "                 | "                                | "                                     |
| PI.155,288   | 40                              | 37 93                                      | 14 35                                      | "                 | "                                | "                                     |
| PI.157,237   | 40                              | 34 85                                      | 11 28                                      | "                 | "                                | "                                     |
| PI.157,238   | 36                              | 34 94                                      | 13 36                                      | "                 | "                                | "                                     |
| PI.157,239   | 36                              | 35 97                                      | 16 44                                      | "                 | "                                | "                                     |
| PI.197,996   | 36                              | 26 72                                      | 7 19                                       | "                 | "                                | "                                     |
| PI.199,271   | 35                              | 28 80                                      | 12 34                                      | "                 | "                                | "                                     |
| PI.199,272   | 34                              | 24 71                                      | 9 26                                       | "                 | "                                | "                                     |
| PI.199,273   | 39                              | 34 87                                      | 17 44                                      | "                 | "                                | "                                     |
| PI.199,274   | 40                              | 37 93                                      | 28 70                                      | "                 | "                                | "                                     |
| PI.199,275   | 38                              | 38 100                                     | 15 39                                      | "                 | "                                | "                                     |
| PI.199,276   | 40                              | 34 85                                      | 4 10                                       | "                 | "                                | "                                     |
| PI.199,277   | 40                              | 30 75                                      | 19 47                                      | "                 | "                                | "                                     |
| PI.199,278   | 38                              | 33 87                                      | 21 55                                      | "                 | "                                | "                                     |
| PI.199,279   | 40                              | 35 86                                      | 21 52                                      | "                 | "                                | "                                     |
| PI.199,280   | 40                              | 35 88                                      | 16 40                                      | "                 | "                                | "                                     |
| PI.199,281   | 40                              | 33 82                                      | 15 33                                      | "                 | "                                | "                                     |
| PI.199,305   | 40                              | 34 85                                      | 23 58                                      | "                 | "                                | "                                     |
| PI.202,729   | 40                              | 34 85                                      | 18 45                                      | "                 | "                                | "                                     |
| PI.202,730   | 40                              | 35 88                                      | 8 20                                       | "                 | "                                | "                                     |
| PI.202,731   | 39                              | 32 82                                      | 10 26                                      | "                 | "                                | "                                     |
| PI.202,732   | 36                              | 28 78                                      | 6 17                                       | "                 | "                                | "                                     |
| PI.202,733   | 39                              | 36 92                                      | 19 49                                      | "                 | "                                | "                                     |
| PI.202,734   | 40                              | 37 93                                      | 21 53                                      | "                 | "                                | "                                     |
| PI.202,735   | 37                              | 27 73                                      | 18 49                                      | "                 | "                                | "                                     |
| PI.202,736   | 40                              | 38 95                                      | 14 35                                      | "                 | "                                | "                                     |
| PI.202,737   | 31                              | 26 84                                      | 7 23                                       | "                 | "                                | "                                     |
| PI.202,738   | 37                              | 29 78                                      | 5 14                                       | "                 | "                                | "                                     |
| PI.202,739   | 22                              | 19 86                                      | 4 18                                       | "                 | "                                | "                                     |
| PI.203,177   | 38                              | 29 76                                      | 8 21                                       | "                 | "                                | "                                     |
| PI.203,478   | 32                              | 24 75                                      | 6 19                                       | "                 | "                                | "                                     |
| H 6 Wis      | 23                              | 11 48                                      | 5 22                                       | "                 | "                                | "                                     |
| Buffalo      | 12                              | 100                                        | 5 41                                       | "                 | "                                | "                                     |
| Du Puits     | 12                              | 7 58                                       | 3 25                                       | "                 | "                                | "                                     |
| Ladak        | 12                              | 100                                        | 2 17                                       | "                 | "                                | "                                     |
| Narragansett | 12                              | 10 83                                      | 4 33                                       | "                 | "                                | "                                     |
| Ranger       | 12                              | 10 83                                      | 5 42                                       | "                 | "                                | "                                     |

## MARYLAND - Beltsville

Table 3 - 1952 Clonal Nursery - Beltsville  
 2 replications, 12 plants per plot, 14 inches per plant  
 3 feet between rows  
 Transplanted May 8, 1952 - Field SD 11 - Data are for 1955

| Entry    | Original plants           | Plants in % of original<br>4/28/55 | Vigor<br>4/28/55 | Vigor<br>6/20/55 | Height<br>6/20/55 | Color<br>6/23/55 | Yellowing<br>all causes<br>7/25/55 |
|----------|---------------------------|------------------------------------|------------------|------------------|-------------------|------------------|------------------------------------|
| C14      | 24                        | 100                                | 4.5              | 3.5              | 4.5               | 4.5              | 7.0                                |
| C20      | 23                        | 79                                 | 5.0              | 4.5              | 4.5               | 2.0              | 6.0                                |
| C33      | 24                        | 92                                 | 5.5              | 5.0              | 5.0               | 2.0              | 6.0                                |
| C36      | 24                        | 96                                 | 6.5              | 6.0              | 5.5               | 2.0              | 3.0                                |
| C53      | 23                        | 96                                 | 5.0              | 4.0              | 5.0               | 2.0              | 3.0                                |
| C70      | 24                        | 96                                 | 4.5              | 4.0              | 5.0               | 2.0              | 2.5                                |
| C79      | 1 <u>1</u> / <sub>2</sub> | -                                  | 3.0              | 4.0              | 4.0               | 2.0              | 6.0                                |
| C93      | 23                        | 100                                | 5.0              | 4.0              | 4.5               | 3.0              | 5.0                                |
| C97      | 24                        | 67                                 | 5.5              | 4.5              | 5.0               | 3.0              | 7.0                                |
| C105     | 24                        | 100                                | 3.0              | 3.0              | 3.0               | 2.0              | 5.0                                |
| C111     | 20                        | 80                                 | 4.5              | 4.0              | 3.0               | 2.0              | 7.0                                |
| C113     | 21                        | 100                                | 4.0              | 3.0              | 3.0               | 2.0              | 6.0                                |
| C122     | 10                        | 60                                 | 4.0              | 4.0              | 3.0               | 2.0              | 8.0                                |
| C123     | 24                        | 92                                 | 6.5              | 5.5              | 5.0               | 2.0              | 5.0                                |
| C124     | 24                        | 92                                 | 4.5              | 4.0              | 4.5               | 2.5              | 5.5                                |
| C125     | 10                        | 90                                 | 7.0              | 7.0              | 7.0               | 4.0              | 5.0                                |
| C170     | 24                        | 100                                | 4.0              | 2.5              | 3.5               | 2.0              | 8.0                                |
| C172     | 24                        | 21                                 | 7.0              | 6.0              | 4.5               | 2.0              | 2.0                                |
| C177     | 24                        | 87                                 | 4.3              | 2.5              | 4.0               | 3.0              | 7.0                                |
| C196     | 24                        | 100                                | 6.0              | 5.0              | 5.0               | 2.0              | 6.0                                |
| C249     | 23                        | 91                                 | 5.0              | 4.0              | 4.0               | 1.5              | 5.0                                |
| C251     | 9                         | 89                                 | 6.5              | 6.5              | 5.0               | 3.0              | 3.5                                |
| C253     | 24                        | 46                                 | 6.5              | 6.0              | 5.0               | 2.5              | 6.0                                |
| C255     | 23                        | 83                                 | 4.0              | 3.5              | 3.5               | 2.0              | 8.0                                |
| C256     | 24                        | 92                                 | 3.5              | 2.0              | 4.5               | 2.0              | 8.5                                |
| 45 Belts | 23                        | 100                                | 4.5              | 3.5              | 4.0               | 2.0              | 8.0                                |
| 96 "     | 24                        | 87                                 | 4.5              | 3.5              | 3.0               | 2.5              | 7.0                                |
| 124 "    | 24                        | 50                                 | 6.0              | 5.5              | 5.5               | 3.0              | 7.0                                |
| 128 "    | 24                        | 50                                 | 5.0              | 5.0              | 5.0               | 2.0              | 6.0                                |
| 135 "    | 24                        | 96                                 | 6.0              | 4.5              | 3.5               | 2.5              | 4.0                                |
| 141 "    | 23                        | 67                                 | 5.0              | 4.0              | 4.0               | 2.5              | 6.0                                |
| 142 "    | 24                        | 4                                  | 3.0              | 2.0              | 4.0               | 3.0              | 8.0                                |
| 230 "    | 24                        | 100                                | 4.0              | 3.0              | 2.5               | 3.0              | 8.5                                |
| 231 "    | 24                        | 83                                 | 5.5              | 3.5              | 3.5               | 2.0              | 8.0                                |
| 234 "    | 24                        | 79                                 | 4.5              | 2.5              | 2.5               | 3.5              | 8.0                                |
| 236 "    | 24                        | 92                                 | 4.5              | 3.0              | 3.5               | 2.0              | 8.0                                |

1/ Twenty plants sent to Utah 5/2/55

(Continued)

## MARYLAND - Beltsville

Table 3 - 1952 Clonal Nursery - Continued

| Entry     | Original plants | Plants in % of original<br>4/28/55 | Vigor<br>4/28/55 | Vigor<br>6/20/55 | Height<br>6/20/55 | Color<br>6/23/55 | Yellowing<br>all causes<br>7/25/55 |
|-----------|-----------------|------------------------------------|------------------|------------------|-------------------|------------------|------------------------------------|
| 239 Belts | 24              | 83                                 | 4.5              | 3.0              | 4.0               | 2.0              | 8.0                                |
| 242 "     | 24              | 83                                 | 5.0              | 3.0              | 3.5               | 2.0              | 8.0                                |
| 254 "     | 24              | 96                                 | 4.5              | 3.0              | 3.5               | 2.5              | 8.0                                |
| 257 "     | 24              | 92                                 | 5.0              | 3.0              | 3.5               | 2.5              | 5.0                                |
| 262 "     | 24              | 96                                 | 5.0              | 3.5              | 3.5               | 2.0              | 8.0                                |
| 281 "     | 24              | 79                                 | 5.0              | 4.0              | 3.5               | 2.5              | 8.0                                |
| 282 "     | 24              | 92                                 | 5.0              | 4.0              | 5.5               | 2.0              | 5.0                                |
| 284 "     | 21              | 90                                 | 4.0              | 2.0              | 2.5               | 2.0              | 8.0                                |
| 285 "     | 24              | 54                                 | 5.0              | 3.5              | 4.0               | 2.0              | 8.0                                |
| 287 "     | 24              | 58                                 | 5.0              | 4.0              | 4.0               | 2.0              | 8.0                                |
| 288 "     | 24              | 87                                 | 4.5              | 3.5              | 4.0               | 2.0              | 7.0                                |
| 290 "     | 24              | 79                                 | 7.0              | 6.5              | 6.0               | 2.5              | 5.0                                |
| 292 "     | 24              | 87                                 | 4.0              | 3.5              | 3.5               | 2.0              | 8.0                                |
| 295 "     | 22              | 72                                 | 4.5              | 3.0              | 3.0               | 2.5              | 8.0                                |
| 296 "     | 24              | 96                                 | 6.5              | 5.5              | 6.0               | 2.0              | 3.0                                |
| 298 "     | 24              | 96                                 | 5.5              | 5.0              | 5.5               | 2.0              | 3.5                                |
| 299 "     | 24              | 96                                 | 5.5              | 5.0              | 5.5               | 1.5              | 4.0                                |
| 301 "     | 24              | 58                                 | 5.5              | 5.5              | 5.0               | 4.0              | 8.0                                |
| 302 "     | 24              | 67                                 | 5.0              | 3.0              | 4.0               | 1.5              | 2.0                                |
| 304 "     | 24              | 13                                 | 5.5              | 3.0              | 4.0               | 2.0              | 4.0                                |
| 306 "     | 7               | 100                                | 4.0              | 4.0              | 3.0               | 2.0              | 2.0                                |
| 307 "     | 24              | 87                                 | 4.0              | 3.0              | 4.0               | 1.0              | 3.0                                |
| 308 "     | 24              | 71                                 | 5.0              | 5.0              | 5.0               | 2.0              | 4.0                                |
| 313 "     | 12              | 25                                 | 5.0              | 8.0              | 6.0               | 4.0              | 2.0                                |
| 320 "     | 24              | 79                                 | 5.0              | 5.0              | 4.5               | 1.0              | 2.0                                |
| 321 "     | 24              | 96                                 | 3.5              | 2.0              | 2.5               | 1.0              | 3.0                                |
| 323 "     | 23              | 87                                 | 5.5              | 5.0              | 6.0               | 2.0              | 2.0                                |
| 324 "     | 24              | 96                                 | 4.0              | 3.5              | 4.0               | 2.5              | 7.0                                |
| 328 "     | 24              | 87                                 | 5.0              | 5.0              | 4.0               | 2.5              | 6.0                                |
| 332 "     | 23              | 87                                 | 6.5              | 5.5              | 5.5               | 2.0              | 6.0                                |
| 335 "     | 24              | 38                                 | 6.0              | 4.5              | 4.5               | 2.0              | 5.0                                |
| 337 "     | 24              | -                                  | -                | -                | -                 | -                | -                                  |
| 338 "     | 24              | 96                                 | 5.0              | 3.5              | 4.0               | 2.0              | 2.0                                |
| 339 "     | 19              | 100                                | 3.5              | 2.5              | 5.0               | 2.5              | 6.0                                |
| 340 "     | 24              | 63                                 | 6.5              | 7.0              | 6.0               | 2.0              | 4.0                                |
| 341 "     | 15              | 87                                 | 5.0              | 3.5              | 5.0               | 2.0              | 5.0                                |
| 342 "     | 24              | 100                                | 4.5              | 2.5              | 3.5               | 2.5              | 8.0                                |
| 343 "     | 24              | 92                                 | 4.5              | 2.5              | 3.5               | 2.0              | 7.0                                |
| 344 "     | 24              | 92                                 | 5.5              | 4.5              | 4.5               | 2.0              | 4.0                                |
| 345 "     | 24              | 92                                 | 6.0              | 5.5              | 5.5               | 2.0              | 6.0                                |

(Continued)

## MARYLAND - Beltsville

Table 3 - 1952 Clonal Nursery - Continued

| Entry          | Original<br>plants | Plants<br>in % of<br>original<br>4/28/55 | Vigor<br>4/28/55 | Vigor<br>6/20/55 | Height<br>6/20/55 | Color<br>6/23/55 | Yellowing<br>all<br>causes<br>7/25/55 |
|----------------|--------------------|------------------------------------------|------------------|------------------|-------------------|------------------|---------------------------------------|
| 346 Belts      | 20                 | 75                                       | 5.0              | 3.5              | 5.0               | 2.5              | 7.0                                   |
| 347 "          | 15                 | 20                                       | 5.0              | 5.0              | 3.0               | 2.0              | 8.0                                   |
| 348 "          | 23                 | 61                                       | 5.0              | 3.5              | 4.5               | 2.0              | 7.0                                   |
| 349 "          | 24                 | 67                                       | 6.0              | 5.5              | 5.0               | 2.0              | 6.0                                   |
| 362 "          | 22                 | -                                        | -                | -                | -                 | -                | -                                     |
| 364 "          | 12                 | -                                        | -                | -                | -                 | -                | -                                     |
| 366 "          | 24                 | 25                                       | 6.5              | 6.0              | 5.3               | 2.0              | 5.0                                   |
| 368 "          | 11                 | -                                        | -                | -                | -                 | -                | -                                     |
| 369 "          | 12                 | -                                        | -                | -                | -                 | -                | -                                     |
| 370 "          | 24                 | 71                                       | 5.5              | 3.5              | 3.0               | 2.0              | 8.5                                   |
| 371 "          | 24                 | 75                                       | 5.5              | 4.0              | 4.5               | 2.0              | 8.0                                   |
| 372 "          | 12                 | -                                        | -                | -                | -                 | -                | -                                     |
| 373 "          | 24                 | 4                                        | 8.0              | 7.0              | 5.0               | 4.0              | 2.0                                   |
| 374 "          | 12                 | -                                        | -                | -                | -                 | -                | -                                     |
| 375 "          | 23                 | -                                        | -                | -                | -                 | -                | -                                     |
| 380 "          | 24                 | 54                                       | 5.5              | 5.5              | 5.0               | 3.0              | 8.0                                   |
| 382 "          | 12                 | -                                        | -                | -                | -                 | -                | -                                     |
| 385 "          | 22                 | 9                                        | 7.5              | 8.0              | 7.5               | 3.5              | 6.0                                   |
| 386 "          | 24                 | 58                                       | 6.0              | 6.0              | 5.0               | 2.5              | 5.0                                   |
| 387 "          | 24                 | 92                                       | 5.0              | 4.0              | 4.0               | 2.5              | 7.0                                   |
| 388 "          | 24                 | 75                                       | 6.0              | 5.0              | 4.5               | 2.0              | 8.0                                   |
| 389 "          | 24                 | 63                                       | 6.0              | 5.0              | 4.5               | 2.0              | 8.0                                   |
| 390 "          | 24                 | -                                        | -                | -                | -                 | -                | -                                     |
| 391 "          | 24                 | 38                                       | 7.0              | 6.0              | 4.0               | 2.0              | 7.0                                   |
| 393 "          | 24                 | 92                                       | 4.5              | 2.5              | 3.5               | 2.0              | 5.0                                   |
| 1315 Neb       | 24                 | 38                                       | 6.0              | 5.5              | 5.0               | 2.5              | 5.0                                   |
| 1361 "         | 24                 | 83                                       | 5.0              | 3.5              | 4.0               | 2.0              | 5.0                                   |
| 1914 "         | 13                 | 85                                       | 7.5              | 7.0              | 7.0               | 2.5              | 5.0                                   |
| 1917 "         | 23                 | 96                                       | 4.0              | 3.5              | 3.5               | 2.0              | 3.5                                   |
| R 185-12-3     | 24                 | 25                                       | 7.0              | 6.5              | 6.0               | 2.0              | 6.0                                   |
| C/S 62         | 24                 | 96                                       | 5.0              | 4.0              | 4.0               | 1.5              | 4.0                                   |
| C/S 80         | 24                 | 96                                       | 5.0              | 3.5              | 4.0               | 2.0              | 6.0                                   |
| C/S 93         | 24                 | -                                        | -                | -                | -                 | -                | -                                     |
| C/S 116        | 24                 | 50                                       | 6.5              | 6.5              | 4.0               | 2.0              | 4.0                                   |
| C/S 188        | 24                 | 100                                      | 5.5              | 3.5              | 4.0               | 2.0              | 6.0                                   |
| C/S 198        | 24                 | 92                                       | 4.5              | 4.5              | 4.0               | 2.0              | 5.0                                   |
| <u>Checks:</u> |                    |                                          |                  |                  |                   |                  |                                       |
| Atlantic       | 35                 | 60                                       | 5.0              | 2.7              | 3.3               | 2.7              | 8.0                                   |
| Buffalo        | 24                 | 87                                       | 5.0              | 4.0              | 4.0               | 2.5              | 8.0                                   |
| Du Puits       | 36                 | 44                                       | 3.3              | 3.7              | 3.0               | 2.0              | 8.7                                   |
| Grimm          | 36                 | 42                                       | 5.3              | 4.3              | 4.0               | 2.7              | 8.0                                   |

(Continued)



Table 3 - 1952 Clonal Nursery - Continued

| Entry        | Original plants | Plants in % of original<br>4/28/55 | Vigor<br>4/28/55 | Vigor<br>6/20/55 | Height<br>6/20/55 | Color<br>6/23/55 | Yellowing all causes<br>7/25/55 |
|--------------|-----------------|------------------------------------|------------------|------------------|-------------------|------------------|---------------------------------|
| Ladak        | 36              | 67                                 | 5.3              | 5.3              | 5.0               | 2.0              | 6.0                             |
| Narragansett | 36              | 64                                 | 4.7              | 3.7              | 4.0               | 2.7              | 6.7                             |
| Ranger       | 24              | 71                                 | 5.0              | 4.5              | 4.5               | 2.5              | 7.0                             |
| Williamsburg | 35              | 74                                 | 4.7              | 4.0              | 3.7               | 2.3              | 8.3                             |

Table 4 - 1953 Clonal Nursery - Beltsville

Rows 3 feet apart, 1 foot between plants within the row

Single plots, 10 plants per plot. Transplanted May 23, 1953

Checks were seeded. 2 replications. Field SE 17

Data reported for 1955

| Entry      | Original plants | Survival in % of original<br>4/22/55 | Spring vigor<br>4/22/55 | Habit of growth<br>6/24/55 | Color green<br>6/24/55 | Crown width inches<br>6/24/55 | Yellowing all causes<br>7/26/55 |
|------------|-----------------|--------------------------------------|-------------------------|----------------------------|------------------------|-------------------------------|---------------------------------|
| C2         | 10              | 100                                  | 6.0                     | 2.0                        | 2.0                    | 4                             | 6.0                             |
| C3         | 9               | 82                                   | 3.0                     | 2.0                        | 1.0                    | 4                             | 8.0                             |
| C10        | 9               | 89                                   | 5.0                     | 2.0                        | 5.0                    | 4                             | 6.0                             |
| C27        | 10              | 100                                  | 4.0                     | 2.0                        | 2.0                    | 4                             | 2.0                             |
| C42        | 10              | 100                                  | 5.0                     | 2.0                        | 3.0                    | 4                             | 2.0                             |
| C51        | 11              | 91                                   | 5.0                     | 2.0                        | 2.0                    | 4                             | 2.0                             |
| C53        | 10              | 100                                  | 5.0                     | 2.0                        | 1.0                    | 4                             | 1.0                             |
| C87        | 10              | 100                                  | 3.0                     | 3.0                        | 2.0                    | 12                            | 2.0                             |
| C125       | 10              | 100                                  | 4.0                     | 3.0                        | 2.0                    | 4                             | 2.0                             |
| C126       | 10              | 90                                   | 4.0                     | 2.0                        | 2.0                    | 4                             | 2.0                             |
| C127       | 9               | 100                                  | 5.0                     | 2.0                        | 3.0                    | 4                             | 6.0                             |
| C130       | 10              | 100                                  | 4.0                     | 3.0                        | 2.0                    | 12                            | 2.0                             |
| C172       | 9               | -                                    | -                       | -                          | -                      | -                             | -                               |
| C184       | 10              | 100                                  | 5.0                     | 2.0                        | 3.0                    | 4                             | 6.0                             |
| C196       | 9               | 100                                  | 5.0                     | 2.0                        | 2.0                    | 4                             | 2.0                             |
| C199       | 10              | 100                                  | 5.0                     | 2.0                        | 2.0                    | 4                             | 4.0                             |
| C218       | 10              | 100                                  | 4.0                     | 2.0                        | 2.0                    | 4                             | 4.0                             |
| C230       | 7               | 100                                  | 6.0                     | 2.0                        | 2.0                    | 4                             | 2.0                             |
| C235       | 10              | 90                                   | 4.0                     | 2.0                        | 1.0                    | 4                             | 4.0                             |
| C236       | 9               | 100                                  | 4.0                     | 2.0                        | 3.0                    | 4                             | 6.0                             |
| C240       | 10              | 100                                  | 5.0                     | 2.0                        | 2.0                    | 4                             | 2.0                             |
| C243       | 8               | 100                                  | 4.0                     | 2.0                        | 3.0                    | 4                             | 4.0                             |
| M.sativa   |                 |                                      |                         |                            |                        |                               |                                 |
| PI.107,298 | 10              | 100                                  | 5.0                     | 5.0                        | 4.0                    | 6                             | 2.0                             |
| Ranger     | 10              | 80                                   | 4.0                     | 2.0                        | 2.0                    | 4                             | 8.0                             |
| 45 Belts   | 10              | 100                                  | 4.0                     | 2.0                        | 2.0                    | 4                             | 8.0                             |
| 284 "      | 11              | 100                                  | 4.0                     | 2.0                        | 2.0                    | 4                             | 6.0                             |
| 313 "      | 10              | 100                                  | 3.0                     | 2.0                        | 2.0                    | 4                             | 2.0                             |
| 321 "      | 4               | 75                                   | 4.0                     | 2.0                        | 2.0                    | 4                             | 4.0                             |

(Continued)

## MARYLAND - Beltsville

Table 4 - 1953 Clonal Nursery - Continued

| Entry                 | Original plants | Survival in % of original<br>4/22/55 | Spring vigor<br>4/22/55 | Habit of growth<br>6/24/55 | Color green<br>6/24/55 | Crown width inches<br>6/24/55 | Yellowing all causes<br>7/26/55 |
|-----------------------|-----------------|--------------------------------------|-------------------------|----------------------------|------------------------|-------------------------------|---------------------------------|
| 332 Belts             | 11              | 100                                  | 4.0                     | 2.0                        | 2.0                    | 4                             | 4.0                             |
| 335 "                 | 10              | 90                                   | 6.0                     | 2.0                        | 3.0                    | 4                             | 6.0                             |
| 348 "                 | 8               | 75                                   | 5.0                     | 2.0                        | 2.0                    | 4                             | 2.0                             |
| 531-8 Wis             | 4               | -                                    | -                       | -                          | -                      | -                             | -                               |
| 531-9 Wis             | 10              | 90                                   | 5.0                     | 2.0                        | 3.0                    | 4                             | 4.0                             |
| 531-24 "              | 8               | 88                                   | 6.0                     | 2.0                        | 4.0                    | 4                             | 4.0                             |
| SC 24714              | 10              | 10                                   | 5.0                     | 2.0                        | 2.0                    | 6                             | 2.0                             |
| SC 24724              | 11              | 100                                  | 5.0                     | 3.0                        | 3.0                    | 4                             | 1.0                             |
| SC 24129              | 10              | 80                                   | 5.0                     | 4.0                        | 3.0                    | 4                             | 1.0                             |
| SC 24760              | 8               | 100                                  | 5.0                     | 2.0                        | 3.0                    | 4                             | 2.0                             |
| SC 247106             | 2               | 100                                  | 5.0                     | 4.0                        | 3.0                    | 6                             | 1.0                             |
| 8 Minn                | 10              | 100                                  | 4.0                     | 3.0                        | 5.0                    | 4                             | 2.0                             |
| 10 Minn               | -               | -                                    | -                       | -                          | -                      | -                             | -                               |
| 18 "                  | 10              | 100                                  | 4.0                     | 2.0                        | 2.0                    | 4                             | 8.0                             |
| 264 "                 | 5               | 100                                  | 5.0                     | 2.0                        | 2.0                    | 6                             | 6.0                             |
| 1740 Neb              | 10              | 100                                  | 5.0                     | 2.0                        | 2.0                    | 4                             | 4.0                             |
| 1781 Neb              | 8               | 88                                   | 5.0                     | 2.0                        | 3.0                    | 4                             | 2.0                             |
| 1799 "                | 10              | 100                                  | 5.0                     | 2.0                        | 2.0                    | 12                            | 4.0                             |
| 1863 "                | 10              | 90                                   | 6.0                     | 2.0                        | 2.0                    | 4                             | 6.0                             |
| 1890 "                | 10              | 100                                  | 5.0                     | 3.0                        | 2.0                    | 4                             | 4.0                             |
| 1917 "                | 11              | 100                                  | 3.0                     | 2.0                        | 2.0                    | 4                             | 4.0                             |
| 2179 "                | 10              | 90                                   | 5.0                     | 2.0                        | 2.0                    | 4                             | 1.0                             |
| 2233 "                | 9               | 100                                  | 4.0                     | 2.0                        | 2.0                    | 4                             | 6.0                             |
| 2235 "                | 11              | 100                                  | 3.0                     | 2.0                        | 2.0                    | 4                             | 4.0                             |
| 2249 "                | 11              | 100                                  | 5.0                     | 2.0                        | 2.0                    | 4                             | 4.0                             |
| 2255 "                | 10              | 100                                  | 5.0                     | 2.0                        | 2.0                    | 6                             | 6.0                             |
| 2703 "                | 9               | 55                                   | 5.0                     | 2.0                        | 2.0                    | 2                             | 1.0                             |
| 2731 "                | 9               | 67                                   | 7.0                     | 3.0                        | 5.0                    | 4                             | 1.0                             |
| 2732 "                | 7               | 71                                   | 5.0                     | 2.0                        | 2.0                    | 2                             | 1.0                             |
| 2733 "                | 8               | 100                                  | 6.0                     | 3.0                        | 5.0                    | 4                             | 2.0                             |
| 2735 "                | 9               | 56                                   | 6.0                     | 3.0                        | 3.0                    | 8                             | 1.0                             |
| 2737 "                | 11              | 100                                  | 7.0                     | 3.0                        | 3.0                    | 8                             | 1.0                             |
| Caliverde FC.24289    | 100-70          | 100                                  | 5.0                     | 2.0                        | 3.0                    | 4                             | 8.0                             |
| Narragansett FC.24645 | 80-100          | 100                                  | 3.5                     | 2.0                        | 2.0                    | 4                             | 6.0                             |
| Nevada Syn-A FC.24646 | 100-100         | 98                                   | 4.0                     | 2.0                        | 3.0                    | 4                             | 8.5                             |
| Vernal FC.24790       | 100-50          | 100                                  | 3.5                     | 2.0                        | 2.5                    | 4                             | 4.0                             |
| Ranger FC.24802       | 100-90          | 100                                  | 4.5                     | 2.0                        | 3.5                    | 4                             | 7.5                             |
| Williamsburg FC.24803 | 100-100         | 100                                  | 3.5                     | 2.0                        | 2.0                    | 4                             | 8.0                             |
| Atlantic FC.24804     | 100-100         | 90                                   | 3.5                     | 2.0                        | 3.5                    | 4                             | 8.0                             |
| Buffalo FC.24864      | 90-90           | 100                                  | 2.5                     | 2.0                        | 3.0                    | 4                             | 8.0                             |



MARYLAND - Beltsville

Table 5 - 1955 Seedling Species Nursery - Beltsville

12 plants per plot - 3 feet between rows

Transplanted May 5, 1955 - Field SD 11

Data reported are for 1955

| Entry                        | Original<br>plants<br>Total for<br>all<br>replications | Percent<br>of<br>original<br>plants<br>11/2/55 | Yellow-<br>ing all<br>causes<br>7/25/55 |
|------------------------------|--------------------------------------------------------|------------------------------------------------|-----------------------------------------|
| FC.32674 $\frac{1}{2}$ /     | 35                                                     | 94                                             | 7.0                                     |
| FC.32675 $\frac{1}{2}$ /     | 36                                                     | 83                                             | 6.3                                     |
| PI. 151,671 $\frac{2}{2}$ /  | 69                                                     | 100                                            | 1.2                                     |
| PI. 201,615 $\frac{1}{2}$ /  | 34                                                     | 88                                             | 3.7                                     |
| PI. 212,798 $\frac{1}{2}$ /  | 36                                                     | 89                                             | 7.3                                     |
| PI. 213,394 $\frac{1}{2}$ /  | 35                                                     | 77                                             | 6.3                                     |
| PI. 214,218 $\frac{1}{2}$ /  | 34                                                     | 97                                             | 5.0                                     |
| PI. 214,219 $\frac{2}{2}$ /  | 12                                                     | 92                                             | 7.0                                     |
| PI. 215,786 $\frac{3}{2}$ /  | 11                                                     | 73                                             | 2.0                                     |
| PI. 217,648 $\frac{1}{2}$ /  | 32                                                     | 69                                             | 1.7                                     |
| PI. 224,002 $\frac{1}{2}$ /  | 33                                                     | 82                                             | 7.0                                     |
| R 185-3 $\frac{1}{2}$ /      | 9                                                      | 100                                            | 7.0                                     |
| C191 $\frac{2}{2}$ /         | 2                                                      | 100                                            | 1.0                                     |
| 435 $\frac{4}{2}$ /          | 18                                                     | 94                                             | 5.0                                     |
| Atlantic $\frac{1}{2}$ /     | 36                                                     | 72                                             | 7.0                                     |
| Buffalo $\frac{1}{2}$ /      | 35                                                     | 86                                             | 6.3                                     |
| Narragansett $\frac{1}{2}$ / | 35                                                     | 91                                             | 4.3                                     |

$\frac{1}{2}$  = 3 plots

$\frac{2}{2}$  = 6 plots

$\frac{3}{2}$  = 1 plot

$\frac{4}{2}$  = 2 plots

## MARYLAND -Beltsville

Table 6 - 1955 Clonal Nursery - Beltsville

4 replications, except 2 replications for Canadian and Pennsylvania numbers. 12 plants per plot

3 feet between rows. Transplanted May 5, 1955

Field SC 11. Data reported are for 1955

| Entry                 | Original plants.<br>Total for all repli-<br>cations | percent of<br>original<br>plants<br>11/2/55 | Yellow-<br>ing all<br>causes<br>7/25/55 |
|-----------------------|-----------------------------------------------------|---------------------------------------------|-----------------------------------------|
| C53                   | 48                                                  | 100                                         | 2.8                                     |
| C70                   | 48                                                  | 98                                          | 5.0                                     |
| C105                  | 48                                                  | 100                                         | 7.0                                     |
| C113                  | 48                                                  | 100                                         | 6.5                                     |
| C170                  | 48                                                  | 100                                         | 7.0                                     |
| C196                  | 48                                                  | 100                                         | 6.0                                     |
| 45 Belts              | 48                                                  | 100                                         | 7.5                                     |
| 135 "                 | 48                                                  | 98                                          | 6.5                                     |
| 230 "                 | 48                                                  | 100                                         | 7.5                                     |
| 282 "                 | 48                                                  | 100                                         | 4.5                                     |
| 306 "                 | 48                                                  | 100                                         | 5.8                                     |
| 307 "                 | 48                                                  | 100                                         | 2.5                                     |
| 321 "                 | 47                                                  | 100                                         | 2.3                                     |
| 339 "                 | 48                                                  | "                                           | 5.5                                     |
| 341 "                 | 48                                                  | "                                           | 5.5                                     |
| 342 "                 | 48                                                  | "                                           | 5.8                                     |
| 345 "                 | 48                                                  | 100                                         | 4.5                                     |
| 433 "                 | 48                                                  | "                                           | 6.0                                     |
| 434 "                 | 48                                                  | "                                           | 5.8                                     |
| 1914 Neb              | 48                                                  | 98                                          | 4.5                                     |
| 1917 Neb              | 48                                                  | 100                                         | 2.5                                     |
| Sc 2543               | 24                                                  | 96                                          | 3.0                                     |
| SC 25352              | 24                                                  | 100                                         | 4.0                                     |
| SC 25374              | 24                                                  | "                                           | 6.0                                     |
| SC 25376              | 24                                                  | 100                                         | 4.0                                     |
| SC 25391              | 24                                                  | "                                           | 3.0                                     |
| SC 25429              | 24                                                  | 92                                          | 7.0                                     |
| SC 25436              | 24                                                  | 100                                         | 3.0                                     |
| Pa 1 51A-542-11-5(10) | 24                                                  | 100                                         | 3.0                                     |
| Pa 2 51A-516-7-15(5)  | 24                                                  | "                                           | 6.0                                     |
| Pa 3 51A-503-7-7(6)   | 24                                                  | "                                           | 4.0                                     |
| Pa 5 51A-505-7-15(2)  | 24                                                  | "                                           | 3.0                                     |

(Continued)

MARYLAND- Beltsville

Table 6 - 1955 Clonal Nursery - Continued

| Entry                    | Original<br>plants.<br>Total for<br>all repli-<br>cations | Percent of<br>original<br>plants<br>11/2/55 | Yellow-<br>ing all<br>causes<br>7/25/55 |
|--------------------------|-----------------------------------------------------------|---------------------------------------------|-----------------------------------------|
| Pa 6 51A-504-7-9(7) 24   |                                                           | 100                                         | 2.5                                     |
| Pa 7 51A-513-7-16(10) 22 |                                                           | 77                                          | 3.0                                     |
| Pa 8 51A-511-7-12(7) 24  |                                                           | 100                                         | 5.0                                     |
| Atlantic                 | 47                                                        | 87                                          | 7.3                                     |
| Buffalo                  | 48                                                        | 79                                          | 7.5                                     |
| Narragansett             | 47                                                        | 68                                          | 7.0                                     |
| Ranger                   | 48                                                        | 77                                          | 6.0                                     |

## MARYLAND - College Park

Eastern Regional Alfalfa Variety Test  
College Park

| Variety              | Yields (Tons/Acre - 12 percent moisture) |      |      |       |      |      |      |       |
|----------------------|------------------------------------------|------|------|-------|------|------|------|-------|
|                      | 1954                                     |      |      |       | 1955 |      |      |       |
|                      | 1st                                      | 2nd  | 3rd  | Total | 1st  | 2nd  | 3rd  | Total |
| Sevelra              | 1.83                                     | 0.37 | 0.70 | 2.86  | 1.42 | 1.34 | 0.98 | 3.74  |
| Williamsburg         | 1.77                                     | 0.43 | 0.81 | 3.01  | 1.37 | 1.58 | 1.04 | 3.99  |
| Du Puits             | 2.04                                     | 0.56 | 0.92 | 3.51  | 1.35 | 1.60 | 0.92 | 3.87  |
| Vernal               | 1.90                                     | 0.55 | 0.91 | 3.36  | 1.50 | 1.16 | 0.92 | 3.58  |
| Nomad <sup>1/</sup>  | 1.85                                     | 0.33 | 0.61 | 2.79  | 1.40 | 1.18 | 0.76 | 3.35  |
| Narragansett         | 2.13                                     | 0.55 | 0.87 | 3.55  | 1.38 | 1.45 | 0.92 | 3.75  |
| Talent <sup>1/</sup> | 1.54                                     | 0.47 | 0.93 | 2.94  | 0.97 | 1.42 | 0.84 | 3.23  |
| Buffalo              | 1.67                                     | 0.49 | 0.82 | 2.98  | 1.15 | 1.37 | 0.94 | 3.46  |
| Atlantic             | 1.93                                     | 0.51 | 0.95 | 3.40  | 1.44 | 1.58 | 0.94 | 3.96  |
| Rhizoma              | 1.88                                     | 0.45 | 0.94 | 3.27  | 1.28 | 1.55 | 0.86 | 3.70  |
| Grimm                | 1.71                                     | 0.52 | 0.90 | 3.13  | 1.36 | 1.48 | 0.85 | 3.68  |
| A-224                | 1.93                                     | 0.36 | 0.67 | 2.95  | 1.38 | 1.25 | 0.82 | 3.45  |
| A-225                | 1.91                                     | 0.49 | 0.84 | 3.24  | 1.45 | 1.34 | 0.92 | 3.71  |
| Ranger               | 1.87                                     | 0.49 | 0.86 | 3.22  | 1.32 | 1.46 | 0.82 | 3.60  |
| Socheville           | 1.86                                     | 0.61 | 0.91 | 3.39  | 1.46 | 1.60 | 0.99 | 4.05  |
| Average              | 1.85                                     | 0.48 | 0.84 | 3.17  | 1.35 | 1.42 | 0.90 | 3.67  |
| LSD .05              | .22                                      | .09  | --   | .36   | .19  | .21  | .13  | .31   |
| LSD .01              | .30                                      | .12  | --   | .48   | .25  | .28  | .17  | .40   |
| C.V. =               |                                          |      |      | 17.5  |      |      |      | 12.6  |

<sup>1/</sup> Distinctly inferior to other varieties in stand by fall 1955.

MASSACHUSETTS

Alfalfa Variety Hardiness Test  
Hudson Field - Feeding Hills

Established: April 1953 4 replications  
Plot size: 5 ft x 20 ft Design: Randomized Complete Block  
Soil: Chicopee Fine Sand  
Fertilizers: 300 lb/A 0-15-30 w/B after each cutting

1955 Summary Yields of Forage in Pounds oven-dry matter per Acre

| Strain       | 1954<br>Total | 1955 harvests |      |      |       | 1954-55<br>Average |
|--------------|---------------|---------------|------|------|-------|--------------------|
|              |               | 6/7           | 7/21 | 9/6  | Total |                    |
| Du Puits     | 8066          | 4832          | 3200 | 1930 | 9962  | 9014               |
| Sevelra      | 7466          | 4164          | 3142 | 2228 | 9534  | 8500               |
| Narragansett | 7774          | 4224          | 2490 | 2049 | 8763  | 8268               |
| Grimm        | 7710          | 3889          | 2690 | 1806 | 8385  | 8047               |
| Williamsburg | 6896          | 4053          | 2829 | 2132 | 9014  | 7944               |
| Atlantic     | 7438          | 3823          | 2669 | 1895 | 8387  | 7912               |
| Buffalo      | 6759          | 3509          | 3015 | 2415 | 8939  | 7849               |
| Ranger       | 6887          | 4256          | 2758 | 1772 | 8786  | 7836               |
| Variegated   | 6960          | 3738          | 2852 | 2037 | 8627  | 7793               |
| Talent       | 6599          | 3259          | 2530 | 1959 | 7748  | 7173               |
| Hardy Common | 5977          | 2980          | 2284 | 2215 | 7478  | 6727               |
| LSD .05      | 1433          | 432           | N.S. | N.S. | 1272  |                    |
| C.V. percent |               |               |      |      | 10.13 |                    |



Uniform Alfalfa Variety Tests

New Brunswick: Six replications, randomized blocks. 5 ft x 20 ft broadcast plots, seeded August 1953. No serious insect or disease problems.

Harrisonville (southern New Jersey): Three replications, randomized blocks, 10 ft x 20 ft broadcast plots, seeded August 1954. First harvest at pre-bloom stage because of serious alfalfa weevil infestation. Third harvest badly defoliated by garden webworm. No differential insect reaction noted.

Califon (northern New Jersey): Three replications, randomized blocks, 10 ft x 20 ft broadcast plots, seeded April 1954. Second harvest greatly reduced by dry weather. No serious insect or disease problems.

Du Puits, Socheville, Atlantic, and Vernal were highest in yield as an average of all locations.

Uniform Alfalfa Variety Tests - 1955

| Variety      | New Brunswick |      |      |       | Harrisonville |      |     |       | Califon |      |      |       | Average<br>all lo-<br>cations |
|--------------|---------------|------|------|-------|---------------|------|-----|-------|---------|------|------|-------|-------------------------------|
|              | 6/2           | 7/5  | 8/29 | Total | 5/24          | 7/5  | 9/9 | Total | 6/6     | 7/20 | 9/12 | Total |                               |
| Sevelra      | 2.23          | 1.00 | .88  | 4.11  | 1.32          | 1.47 | .71 | 3.50  | 1.68    | .39  | 1.91 | 3.98  | 3.93                          |
| Williamsburg | 2.33          | 1.12 | .95  | 4.40  | 1.41          | 1.51 | .74 | 3.66  | 1.87    | .37  | 2.13 | 4.38  | 4.21                          |
| Du Puits     | 2.35          | 1.21 | 1.08 | 4.63  | 1.62          | 1.45 | .54 | 3.61  | 2.35    | .65  | 2.35 | 5.34  | 4.56                          |
| Vernal       | 2.37          | .95  | .87  | 4.09  | 1.68          | 1.70 | .75 | 4.13  | 2.50    | .45  | 2.29 | 5.24  | 4.39                          |
| Nomad        | 1.99          | .65  | .67  | 3.30  | 1.34          | 1.40 | .76 | 3.51  | 1.55    | .30  | 2.18 | 4.02  | 3.53                          |
| A-225        | 2.48          | 1.09 | .89  | 4.45  |               |      |     |       |         |      |      |       |                               |
| Narragansett | 2.24          | 1.10 | .93  | 4.26  | 1.43          | 1.71 | .66 | 3.81  | 2.05    | .40  | 2.31 | 4.75  | 4.27                          |
| Talent       | 2.15          | 1.04 | .99  | 4.17  | 1.32          | 1.34 | .56 | 3.22  | 1.32    | .41  | 1.95 | 3.68  | 3.81                          |
| Buffalo      | 2.32          | 1.12 | .93  | 4.06  | 1.33          | 1.35 | .63 | 3.32  | 1.63    | .46  | 2.09 | 4.18  | 3.91                          |
| Atlantic     | 2.30          | 1.12 | 1.06 | 4.47  | 1.48          | 1.63 | .64 | 3.75  | 2.08    | .46  | 2.32 | 4.86  | 4.39                          |
| Rhizoma      | 2.00          | .94  | .87  | 3.81  | 1.40          | 1.57 | .68 | 3.65  | 2.01    | .41  | 2.33 | 4.74  | 4.00                          |
| Grimm        | 2.10          | .86  | .89  | 3.85  | 1.13          | 1.51 | .65 | 3.29  | 1.64    | .28  | 2.18 | 4.10  | 3.77                          |
| A-224        | 2.23          | 1.00 | .84  | 4.07  | 1.73          | 1.59 | .70 | 4.02  | 1.80    | .36  | 2.00 | 4.16  | 4.08                          |
| Ranger       | 2.40          | 1.04 | .96  | 4.39  | 1.29          | 1.44 | .58 | 3.30  | 1.51    | .32  | 1.99 | 3.82  | 4.00                          |
| Socheville   | 2.04          | 1.09 | 1.05 | 4.18  | 1.52          | 1.69 | .77 | 3.98  | 2.54    | .48  | 2.60 | 5.62  | 4.49                          |
| Maximum      | 2.48          | 1.21 | 1.08 | 4.63  | 1.73          | 1.71 | .77 | 4.13  | 2.54    | .65  | 2.35 | 5.62  | 4.56                          |
| Minimum      | 1.99          | .65  | .67  | 3.30  | 1.13          | 1.34 | .54 | 3.22  | 1.32    | .28  | 1.91 | 3.68  | 3.53                          |
| Average      | 2.33          | 1.02 | .92  | 4.15  | 1.44          | 1.52 | .67 | 3.64  | 1.89    | .41  | 2.19 | 4.49  | 4.09                          |
| LSD .05      | NS            | .20  | .11  | .62   | NS            | .19  | NS  | NS    | .36     | .16  | .38  | .65   | .58                           |
| CV percent   | 14            | 18   | 10   | 13    | 19            | 8    | 18  | 10    | 11      | 23   | 11   | 9     | 9                             |

Index to New York Alfalfa Tests  
Summaries of 1955 and longer time averages

| <u>Type of test</u>                                            | <u>Location</u>     | <u>Year<br/>seeded</u> |
|----------------------------------------------------------------|---------------------|------------------------|
| Description of testing sites and of growing conditions in 1955 |                     |                        |
| General remarks concerning various tests                       |                     |                        |
| Ranger Synthetics - 1955                                       | E.Lamkin, Ithaca    | 1948                   |
| Ranger Synthetics 1949-1955                                    | " " "               | 1948                   |
| NE-10 Polycross progeny-1955                                   | Caldwell II, "      | 1951                   |
| " " " " 1952-1955                                              | " " "               | 1951                   |
| Variety trial - 1955                                           | Caldwell IV, Ithaca | 1951                   |
| " " 1952-1955                                                  | " " "               | 1951                   |
| " " 1955                                                       | Canton              | 1952                   |
| " " 1953-1955                                                  | "                   | 1952                   |
| " " 1955 two cuts                                              | Ketola, Ithaca      | 1953                   |
| " " 1955 three cuts                                            | " "                 | 1953                   |
| " " 1955 four cuts                                             | " "                 | 1953                   |
| " " Summary                                                    | " "                 | 1953                   |
| Eastern Region Uniform test                                    | Canton              | 1954                   |
| Polycross progeny test                                         | Canton              | 1954                   |
| Longer time summaries                                          | -                   | -                      |

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## Description of Testing Sites and Growing Conditions in 1955

| Location                  | Soil type               | Soil description |                | 1955 growing season           |
|---------------------------|-------------------------|------------------|----------------|-------------------------------|
|                           |                         | Fertility        | Drainage       |                               |
| Ithaca-Caldwell           | Dunkirk silty clay loam | Good             | Medium         | Good                          |
| "- East Lamkin            | Chenango gravelly loam  | Medium to good   | Excellent      | Good                          |
| " Ketola                  | Erie gravelly loam      | Medium           | Good (tile)    | Good, but dry in early summer |
| Wyoming County            | Langsford silty loam    | Medium           | Medium to poor | Good                          |
| Tompkins County<br>Ketola | Erie gravelly loam      | Medium           | Good (tile)    | Good, but dry in early summer |
| Madison County            | Cazenovia silt loam     | Good             | Good           | Good                          |
| St. Lawrence County       | Madrid loam             | Good             | Good           | Good                          |
| Steuben County            | Mardin                  | Fair             | Medium         | Dry in June & July            |
| Oswego County             | Worth loam              | Good             | Good           | Very dry during June and July |
| Otsego County             | Chanango gravelly loam  | Good             | Excellent      | Very dry during June and July |
| Chanango County           | Volusia                 | Fair             | Medium         | Good                          |

1948 Ranger Synthetics - East Lamkin, Ithaca

1. This test was continued through the seventh harvest year to check further on persistence under these conditions. The general yield level was a little lower than in 1954, and further changes occurred in volunteer grass species within the alfalfa. Annual grasses were greatly reduced over the previous two years.
2. Stands did not appear to be appreciably further reduced from 1954. Some plots of susceptible varieties have been eliminated completely; others are still unaffected by bacterial wilt. All susceptible varieties are now yielding less each season than resistant varieties, but seven year yield averages still favor Narragansett over Ranger at this location.



1951 NE-10 Polycross Progeny Test - Caldwell II, Ithaca

1. The 4th year yield level dropped very sharply from the 3rd. It is difficult to tell whether this was due to effects of management (3 cuttings per season in 3rd and 4th years), dry weather or general age of the stand. Stands dropped sharply particularly on the less favorable blocks and are definitely below the critical point in parts of the test. Few wilted plants were observed - it is not outwardly evident that wilt was much of a factor in the stand reduction.
2. Bluegrass was very bad in the first cutting; the 2nd and 3rd were relatively clean. Production charts of this plot area indicate a yearly advantage of  $2\frac{1}{2}$  tons of dry hay per acre for some blocks over others, indicating the tremendous differences in production of alfalfa imposed by the range of drainage limitations within a small area.
3. Some progenies are exhibiting outstanding yield and persistence, but with the range in production these could be largely attributable to chance location in this test.

1951 Alfalfa Strain Trial - Caldwell Series IV

1. 4th year yields at this location dropped sharply reflecting losses in stand. Bacterial wilt was operative in parts of the field, particularly the lower portions. Susceptible varieties were affected according to position of plots in the field.
2. 4 year averages are still in favor of the Flemish and Common varieties in the test. In general, their advantage was as great or greater in the 4th harvest year despite the susceptibility of most of these varieties to wilt. At the end of the season, however, the stand differences indicate this would not be true in another year of harvest.
3. Grimm, Narragansett and Rhizoma were hardest hit by wilt; the French strains were affected but yield stayed up because of high yield in replications where the disease was absent. Several experimental lots and polycross progenies continued to be outstanding in both yield and wilt resistance.

1952 Alfalfa Varieties - Canton

1. Little change was noted in 3rd harvest year over performance in the 2nd. Persistence was good, quack grass encroachment continued to be extremely heavy.
2. Pu Puits continued to be the top yielding variety. Although stands of this variety thinned somewhat during the past year, yields were good and the forage was markedly freer of quack grass.
3. Narragansett is second highest in yield and is persisting well. All other varieties have performed well to date with the exception of Nomad and A-224.

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1953 Variety and Management Trial - Ketola

1. For all 16 varieties, the 3 cutting management gave one ton more hay for the season than two. Four cuttings gave .35 of a ton less than three. These differences were influenced to some extent by the unusual late summer moisture conditions. In the second hay year, there appeared to be no differential stand loss between the 3 management systems. Some loss from heaving occurred on all managements in the spring of 1955. Spring recovery in the three and four cutting systems was noticeably slower than for two. Vigor and survival were generally good.
2. Variety performance in the second year closely paralleled the first. Du Puits and Socheville were superior in yield under all managements. Vernal, Narragansett, Ontario Variegated and Atlantic also continued to yield well but remained well below the Flemish strains.

1954 U.S.D.A. Uniform Alfalfa - Canton

1. This test is quite variable. Variety performance is probably too dependent on chance positions in the replications. Socheville was higher yielding than Du Puits. Although much of the difference was probably position effect, it did appear better on observation. Narragansett and Rhizoma both looked well. Williamsburg also yielded highly and was observed to have the coarsest hay in the third cutting.
2. The third cutting was taken on September 27 which may well be critical at this location. On that date, Narragansett, Vernal and Rhizoma were noticeably showing dormancy reaction.

1954 Alfalfa Polycross Progeny Test - Canton

1. Several of the clonal progenies appeared quite high in yield for the first harvest year. 3 cutting management at this northern location should rapidly eliminate weaker strains.

## SUMMARY - Alfalfa 1947-1955

1. Narragansett has given outstanding performance for both yield and stand establishment. It is the best available variety for conditions which are at all difficult for alfalfa. Long time averages give Narragansett a .3 - .4 ton yield advantage over Ranger regardless of length of stand. In the few trials where stands have been damaged in the late harvest years by bacterial wilt, the high initial yields of Narragansett have usually exceeded any later losses through wilt, therefore, making the variety superior to Ranger for all stands up to four years of hay.
2. Narragansett has now been tested in over 30 separate yield trials in New York under widely varying conditions. Wide adaptation is indicated by its consistently good performance. Susceptibility to bacterial wilt has been a major factor in production in only a small fraction of these tests. In all others, the disease was either absent or was of little consequence because other factors rendered stands of all varieties unsatisfactory after several years of production. Present evidence indicates that bacterial wilt under New York conditions



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is important only where alfalfa stands exceed three years of harvest and is a very minor factor compared to drainage, acidity, fertility and mismanagement in limiting stand life in most of the New York alfalfa growing area. Because of its better performance under various combinations of these limiting factors, Narragansett is recommended over other varieties for short term stands and in "marginal" areas of production.

3. The Flemish varieties, Du Puits and Socheville, have exhibited the greatest potential for high yield under intensive cutting. Du Puits is preferred over Socheville because a reliable seed supply is available. Limited evidence indicates that 3-cuttings per season increases yield of all varieties up to 3/4 ton per year of higher quality hay; this management can be expected to shorten the productive life of stands. The Flemish strains, under these conditions, produce .5 - .7 ton more hay per year than all other available varieties.

Fertility and drainage requirements and the necessity for very early harvest of the first crop generally limits this type of production to the better alfalfa soils and requires special equipment. Two or three years of maximum production are possible before stands begin to decline.

Although incomplete, testing to date has indicated some superiority in yield for Du Puits on less favorable soils. Persistence, questionable winter hardiness under severe conditions, and a tendency for coarse hay when cutting is delayed to normal (twice-a-season) harvest dates will probably limit its usefulness under these conditions. Its range of adaptation is not yet fully established.

Other French strains tested have been inferior to Du Puits and Socheville; particularly those reportedly originating in Southern France.

4. Vernal, a wilt resistant variety, is substantially higher yielding than Ranger. Although local evidence is currently lacking on long time persistence, the variety is winter hardy, wilt resistant and superior in both stand establishment and yield to Ranger. It is lower in yield in short term stands than Narragansett, but on present evidence should be recommended for all places where alfalfa is expected to exceed three years of production, or where a field has a previous history of bacterial wilt infestation.

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Table 1 - 1955 Summary

## 1948 Alfalfa Plots - Ranger Synthetics - Ithaca

| Identification            | Yield - Tons Per Acre |        |        | Percent Alfalfa |      |
|---------------------------|-----------------------|--------|--------|-----------------|------|
|                           | 6/15                  | 8/24   | Total  | 6/15            | 8/24 |
| A-110 Neb                 | 2.20                  | 1.32   | 3.52   | 91              | 100  |
| A-111 "                   | 1.86                  | 1.24   | 3.09   | 83              | "    |
| A-116 "                   | 1.73                  | 1.31   | 3.03   | 82              | "    |
| A-117 "                   | 2.27                  | 1.38   | 3.65   | 88              | "    |
| A-119 Neb                 | 2.18                  | 1.38   | 3.56   | 88              | "    |
| Syn-1 Mont. Foundation    | 2.00                  | 1.38   | 3.38   | 87              | "    |
| Syn-2 Mont. Registered    | 2.05                  | 1.30   | 3.35   | 83              | "    |
| Syn-2 Arizona Certified   | 2.10                  | 1.38   | 3.47   | 90              | "    |
| Syn-2 x California Common | 1.97                  | 1.33   | 3.30   | 84              | "    |
| Syn-3 Arizona Ineligible  | 2.02                  | 1.20   | 3.22   | 87              | "    |
| Syn-0 Breeders            | 2.18                  | 1.39   | 3.57   | 88              | "    |
| Syn-1 Neb. Foundation     | 2.19                  | 1.24   | 3.43   | 90              | "    |
| Syn-2 Neb. Registered     | 2.30                  | 1.34   | 3.64   | 88              | "    |
| Syn-3 Neb. Certified      | 2.12                  | 1.36   | 3.49   | 88              | "    |
| Ontario Variegated        | .54                   | .75    | 1.29   | 25              | "    |
| Buffalo                   | 2.26                  | 1.48   | 3.75   | 89              | "    |
| Atlantic                  | 2.10                  | 1.28   | 3.39   | 84              | "    |
| Williamsburg              | 1.75                  | 1.43   | 3.18   | 77              | "    |
| Narragansett              | 1.38                  | 1.19   | 2.57   | 60              | "    |
| A-224 Utah                | 1.79                  | 1.15   | 2.94   | 79              | "    |
| Kansas Common             | 1.05                  | 1.11   | 2.16   | 50              | "    |
| A-226 Nevada              | 2.43                  | 1.46   | 3.89   | 92              | "    |
| A-225 Nebraska            | 2.17                  | 1.49   | 3.66   | 84              | "    |
| A-225 Utah                | 2.20                  | 1.42   | 3.61   | 88              | "    |
| Grimm Commercial          | 1.30                  | 1.06   | 2.36   | 58              | "    |
| Mean                      | 1.92                  | 1.29   | 3.22   | 80              | 100  |
| F varieties               | 8.96**                | 4.73** | 8.93** |                 |      |
| L.S.D. (P = .05)          | .41                   | .20    | .55    |                 |      |

Table 2 - Summary 1949-1955

1948 Alfalfa Plots: Ranger Synthetics - Ithaca  
Lamkin Field - Soil type: Chenango gravelly loam

| Identification          | Yield - Tons Per Acre                            |                                                 |                                                   |                                                 |                                                   |                                                 |                                                   |                                                 |                                                   |                                                 |                                                   |                                                 |                                                   |                                                 |
|-------------------------|--------------------------------------------------|-------------------------------------------------|---------------------------------------------------|-------------------------------------------------|---------------------------------------------------|-------------------------------------------------|---------------------------------------------------|-------------------------------------------------|---------------------------------------------------|-------------------------------------------------|---------------------------------------------------|-------------------------------------------------|---------------------------------------------------|-------------------------------------------------|
|                         | 1949 : 1950 : 1951 : 1952 : 1953 : 1954 : 1955 : |                                                 | : 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: |                                                 | : 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: |                                                 | : 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: |                                                 | : 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: |                                                 | : 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: |                                                 | : 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: |                                                 |
|                         | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts:  | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts:   | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts:   | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts:   | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts:   | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts:   | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts:   | 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: 2 cuts: |
| A-110 Neb               | 2.69                                             | 4.61                                            | 5.49                                              | 4.04                                            | 4.87                                              | 3.61                                            | 3.52                                              | 3.65                                            | 4.26                                              | 4.21                                            | 4.34                                              | 4.22                                            | 4.12                                              | 4.06                                            |
| A-111 Neb               | 2.73                                             | 4.10                                            | 5.06                                              | 4.07                                            | 4.50                                              | 3.30                                            | 3.39                                              | 3.42                                            | 3.96                                              | 3.99                                            | 4.12                                              | 3.96                                            | 3.84                                              | 3.78                                            |
| A-116 Neb               | 2.32                                             | 4.21                                            | 5.19                                              | 3.86                                            | 4.55                                              | 3.31                                            | 3.03                                              | 3.26                                            | 3.97                                              | 3.90                                            | 4.03                                              | 3.91                                            | 3.78                                              | 3.78                                            |
| A-117 Neb               | 2.54                                             | 4.09                                            | 5.48                                              | 4.14                                            | 4.82                                              | 3.67                                            | 3.65                                              | 3.32                                            | 4.04                                              | 4.06                                            | 4.21                                              | 4.12                                            | 4.06                                              | 4.06                                            |
| A-119 Neb               | 2.51                                             | 4.32                                            | 5.23                                              | 4.18                                            | 4.97                                              | 3.59                                            | 3.56                                              | 3.42                                            | 4.02                                              | 4.06                                            | 4.24                                              | 4.13                                            | 4.05                                              | 4.05                                            |
| Syn-1 Mont. Fd.         | 2.65                                             | 4.57                                            | 5.22                                              | 4.25                                            | 4.82                                              | 3.85                                            | 3.38                                              | 3.60                                            | 4.14                                              | 4.17                                            | 4.30                                              | 4.22                                            | 4.10                                              | 4.10                                            |
| Syn-2 Mont. Reg.        | 2.43                                             | 4.45                                            | 5.44                                              | 4.36                                            | 4.71                                              | 3.58                                            | 3.35                                              | 3.44                                            | 4.11                                              | 4.17                                            | 4.28                                              | 4.16                                            | 4.05                                              | 4.05                                            |
| Syn-2 Ariz. Cert.       | 2.77                                             | 4.31                                            | 5.46                                              | 4.23                                            | 4.65                                              | 3.66                                            | 3.47                                              | 3.54                                            | 4.18                                              | 4.19                                            | 4.28                                              | 4.18                                            | 4.08                                              | 4.08                                            |
| Syn-2 x Cal. Com.*      | 3.13                                             | 4.65                                            | 5.25                                              | 3.95                                            | 4.87                                              | 3.75                                            | 3.30                                              | 3.89                                            | 4.34                                              | 4.24                                            | 4.37                                              | 4.27                                            | 4.13                                              | 4.13                                            |
| Syn-3 Ariz. Ineligible* | 2.79                                             | 4.53                                            | 5.55                                              | 4.32                                            | 4.63                                              | 3.59                                            | 3.22                                              | 3.66                                            | 4.29                                              | 4.30                                            | 4.36                                              | 4.24                                            | 4.09                                              | 4.09                                            |
| Syn-0 Breeders          | 3.00                                             | 4.75                                            | 5.24                                              | 4.11                                            | 4.93                                              | 3.96                                            | 3.57                                              | 3.88                                            | 4.33                                              | 4.28                                            | 4.41                                              | 4.33                                            | 4.22                                              | 4.22                                            |
| Syn-1 Neb. Fd.          | 2.83                                             | 4.62                                            | 5.59                                              | 4.13                                            | 4.84                                              | 3.59                                            | 3.43                                              | 3.72                                            | 4.35                                              | 4.29                                            | 4.40                                              | 4.27                                            | 4.15                                              | 4.15                                            |
| Syn-2 Neb. Reg.         | 2.87                                             | 4.62                                            | 5.21                                              | 4.51                                            | 4.83                                              | 3.89                                            | 3.64                                              | 3.74                                            | 4.23                                              | 4.30                                            | 4.41                                              | 4.32                                            | 4.23                                              | 4.23                                            |
| Syn-3 Neb. Cert.        | 2.71                                             | 4.69                                            | 5.46                                              | 4.25                                            | 4.94                                              | 3.82                                            | 3.49                                              | 3.70                                            | 4.29                                              | 4.28                                            | 4.41                                              | 4.31                                            | 4.20                                              | 4.20                                            |
| Ontario Variegated      | 3.26                                             | 4.98                                            | 5.39                                              | 4.02                                            | 4.73                                              | 2.65                                            | 1.29                                              | 4.12                                            | 4.54                                              | 4.41                                            | 4.48                                              | 4.17                                            | 3.76                                              | 3.76                                            |
| Buffalo                 | 2.93                                             | 4.33                                            | 5.30                                              | 4.04                                            | 5.18                                              | 3.74                                            | 3.75                                              | 3.63                                            | 4.19                                              | 4.15                                            | 4.36                                              | 4.25                                            | 4.18                                              | 4.18                                            |
| Atlantic                | 3.00                                             | 4.83                                            | 5.26                                              | 4.02                                            | 4.87                                              | 3.63                                            | 3.39                                              | 3.92                                            | 4.36                                              | 4.28                                            | 4.40                                              | 4.27                                            | 4.14                                              | 4.14                                            |
| Williamsburg            | 2.34                                             | 4.86                                            | 5.17                                              | 4.01                                            | 5.11                                              | 3.40                                            | 3.18                                              | 3.60                                            | 4.12                                              | 4.10                                            | 4.30                                              | 4.15                                            | 4.02                                              | 4.02                                            |
| Narragansett            | 3.47                                             | 5.02                                            | 5.99                                              | 4.38                                            | 5.08                                              | 3.69                                            | 2.57                                              | 4.24                                            | 4.83                                              | 4.72                                            | 4.79                                              | 4.61                                            | 4.32                                              | 4.32                                            |
| A-224 Utah              | 2.30                                             | 4.65                                            | 5.94                                              | 3.73                                            | 4.06                                              | 3.50                                            | 2.94                                              | 3.48                                            | 4.30                                              | 4.16                                            | 4.24                                              | 4.03                                            | 3.88                                              | 3.88                                            |
| Kansas Common           | 2.81                                             | 4.51                                            | 5.07                                              | 3.88                                            | 4.53                                              | 3.34                                            | 2.16                                              | 3.66                                            | 4.13                                              | 4.07                                            | 4.16                                              | 4.02                                            | 3.76                                              | 3.76                                            |
| A-226 Nevada            | 2.54                                             | 4.43                                            | 5.36                                              | 4.22                                            | 5.28                                              | 3.81                                            | 3.89                                              | 3.48                                            | 4.11                                              | 4.14                                            | 4.37                                              | 4.27                                            | 4.22                                              | 4.22                                            |
| A-225 Nebraska          | 2.73                                             | 4.65                                            | 5.77                                              | 4.22                                            | 4.96                                              | 3.97                                            | 3.66                                              | 3.69                                            | 4.38                                              | 4.34                                            | 4.47                                              | 4.38                                            | 4.28                                              | 4.28                                            |
| A-225 Utah              | 2.76                                             | 4.79                                            | 6.05                                              | 4.54                                            | 4.89                                              | 4.10                                            | 3.61                                              | 3.78                                            | 4.53                                              | 4.54                                            | 4.61                                              | 4.52                                            | 4.39                                              | 4.39                                            |
| Grimm Com.              | 2.79                                             | 5.11                                            | 5.52                                              | 4.10                                            | 4.59                                              | 3.02                                            | 2.36                                              | 3.95                                            | 4.47                                              | 4.38                                            | 4.42                                              | 4.19                                            | 3.93                                              | 3.93                                            |
| Average                 | 2.76                                             | 4.59                                            | 5.43                                              | 4.14                                            | 4.80                                              | 3.60                                            | 3.22                                              | 3.68                                            | 4.26                                              | 4.23                                            | 4.34                                              | 4.22                                            | 4.08                                              | 4.08                                            |
| L.S.D. (P = .05)        | .48                                              | .48                                             | .44                                               | --                                              | .36                                               | .62                                             |                                                   |                                                 |                                                   |                                                 |                                                   |                                                 |                                                   |                                                 |



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Table 3 -

1951 NE-10 Alfalfa Polycross Progeny Test - Caldwell II - 1955

Broadcast seeded May 8, 1951 on Caldwell Field, Series 11, in 5 ft x 16 ft plots at seeding rate 12 pounds per acre. 9 x 9 simple lattice design with four replications. Yield data adjusted on basis of lattice analysis

| Identification | Yield - Tons per acre |      |      |               | Percent stand<br>5/15 | Vigor<br>(10-most)<br>5/15 |
|----------------|-----------------------|------|------|---------------|-----------------------|----------------------------|
|                | 6/15                  | 7/20 | 9/8  | Adj.<br>Total |                       |                            |
| 07E - C2       | 1.20                  | .94  | 1.22 | 3.35          | 44                    | 6.0                        |
| - C3           | 1.31                  | .79  | 1.17 | 3.27          | 39                    | 6.5                        |
| - C10          | 2.02                  | 1.05 | 1.26 | 4.32          | 62                    | 7.5                        |
| - C11          | 1.48                  | .83  | 1.29 | 3.60          | 42                    | 6.0                        |
| - C12          | 1.60                  | .87  | 1.30 | 3.76          | 50                    | 6.2                        |
| - C13          | 1.06                  | .80  | 1.24 | 3.10          | 42                    | 6.0                        |
| - C14          | 1.51                  | .96  | 1.22 | 3.69          | 49                    | 5.8                        |
| - C27          | 1.20                  | .94  | 1.28 | 3.41          | 48                    | 6.8                        |
| - C32          | 1.65                  | .93  | 1.24 | 3.82          | 48                    | 6.2                        |
| - C35          | 1.80                  | .98  | 1.25 | 4.04          | 54                    | 7.0                        |
| - C36          | 1.71                  | .91  | 1.33 | 3.95          | 46                    | 7.0                        |
| - C42          | 2.00                  | 1.06 | 1.31 | 4.37          | 56                    | 7.5                        |
| - C44          | 1.61                  | .88  | 1.26 | 3.76          | 48                    | 7.0                        |
| - C46          | 1.80                  | .94  | 1.13 | 3.86          | 59                    | 8.0                        |
| - C51          | 1.37                  | .78  | 1.22 | 3.36          | 42                    | 6.0                        |
| - C53          | 1.82                  | .99  | 1.20 | 4.01          | 55                    | 7.5                        |
| - C54          | 1.58                  | .94  | 1.23 | 3.76          | 48                    | 6.8                        |
| - C57          | 1.67                  | .82  | 1.32 | 3.80          | 52                    | 5.5                        |
| - C79          | 1.57                  | 1.05 | 1.26 | 3.88          | 49                    | 7.0                        |
| - C87          | 1.58                  | .84  | 1.14 | 3.55          | 46                    | 6.2                        |
| - C91          | 2.25                  | 1.21 | 1.28 | 4.74          | 65                    | 8.2                        |
| - C112         | 1.77                  | 1.17 | 1.29 | 4.23          | 54                    | 8.0                        |
| - C130         | 2.02                  | .95  | 1.30 | 4.27          | 51                    | 6.5                        |
| - C144         | 1.29                  | .75  | 1.11 | 3.15          | 36                    | 6.0                        |
| - C174         | 1.72                  | 1.16 | 1.32 | 4.21          | 56                    | 7.8                        |
| - C175         | 1.54                  | .98  | 1.32 | 3.86          | 38                    | 6.0                        |
| - C176         | 1.89                  | .94  | 1.22 | 4.05          | 51                    | 5.5                        |
| - C180         | 1.07                  | .64  | 1.17 | 2.88          | 32                    | 4.8                        |
| - C183         | 1.44                  | .81  | 1.18 | 3.43          | 40                    | 6.2                        |
| - C184         | 2.10                  | 1.03 | 1.20 | 4.32          | 59                    | 7.8                        |
| - C187         | 1.53                  | 1.00 | 1.32 | 3.84          | 44                    | 7.5                        |
| - C188         | 2.06                  | 1.18 | 1.23 | 4.48          | 60                    | 8.2                        |
| - C190         | 1.45                  | .95  | 1.18 | 3.58          | 44                    | 6.5                        |
| - C191         | 1.54                  | .98  | 1.20 | 3.70          | 48                    | 6.5                        |
| - C195         | 1.38                  | .86  | 1.22 | 3.46          | 45                    | 6.5                        |
| - C196         | 1.89                  | 1.10 | 1.28 | 4.28          | 52                    | 7.2                        |

(Continued)

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Table 3 -

1951 NE-10 Alfalfa Polycross - continued

Table 3 -

| Identification | Yield - Tons per Acre |      |      |               | Percent stand<br>5/15 | Vigor<br>(10=most)<br>5/15 |
|----------------|-----------------------|------|------|---------------|-----------------------|----------------------------|
|                | 6/15                  | 7/20 | 9/8  | Adj.<br>Total |                       |                            |
| 07E - C197     | .80                   | .60  | 1.17 | 2.57          | 31                    | 4.5                        |
| - C199         | 1.06                  | .74  | 1.14 | 2.95          | 36                    | 5.2                        |
| - C221         | 1.49                  | .80  | 1.28 | 3.56          | 41                    | 5.5                        |
| - C223         | 1.13                  | .66  | 1.20 | 3.00          | 34                    | 4.2                        |
| - 5-7          | 1.33                  | .77  | 1.30 | 3.40          | 41                    | 5.2                        |
| - 49-6         | .88                   | .66  | 1.10 | 2.65          | 32                    | 4.8                        |
| - 49-8         | 1.46                  | .87  | 1.16 | 3.48          | 45                    | 6.8                        |
| - 49-10        | 1.22                  | 1.00 | 1.21 | 3.44          | 46                    | 7.0                        |
| - 49-13        | 1.64                  | .95  | 1.18 | 3.78          | 41                    | 6.5                        |
| - 49-14        | 1.48                  | .94  | 1.18 | 3.60          | 48                    | 7.8                        |
| - 49-15        | 1.48                  | 1.02 | 1.29 | 3.79          | 56                    | 7.5                        |
| - 49-19        | 1.94                  | 1.13 | 1.32 | 4.38          | 56                    | 7.5                        |
| - 49-20        | 1.28                  | .94  | 1.22 | 3.44          | 41                    | 7.0                        |
| - 49-22        | 1.77                  | .83  | 1.17 | 3.77          | 42                    | 6.5                        |
| - 49-26        | .99                   | .74  | 1.16 | 2.89          | 30                    | 6.0                        |
| Wis. Syn-C     | 1.62                  | 1.17 | 1.27 | 4.06          | 56                    | 7.2                        |
| 07E - 49-32    | 1.27                  | .82  | 1.27 | 3.36          | 39                    | 6.0                        |
| - 49-33        | 1.77                  | 1.00 | 1.42 | 4.20          | 50                    | 7.5                        |
| - 49-34        | 1.12                  | .91  | 1.17 | 3.20          | 38                    | 6.2                        |
| - 49-35        | .91                   | .80  | 1.15 | 2.86          | 36                    | 6.0                        |
| - 49-37        | 1.64                  | .99  | 1.19 | 3.82          | 46                    | 7.0                        |
| - 49-38        | 1.20                  | .92  | 1.22 | 3.34          | 42                    | 6.8                        |
| - 49-39        | 1.42                  | .88  | 1.20 | 3.50          | 44                    | 6.5                        |
| - 49-41        | .94                   | .69  | 1.17 | 2.80          | 34                    | 6.0                        |
| - 49-44        | 1.30                  | .97  | 1.26 | 3.52          | 45                    | 7.0                        |
| - 49-45        | .97                   | .90  | 1.19 | 3.05          | 41                    | 6.0                        |
| - 49-48        | 1.42                  | 1.06 | 1.25 | 3.74          | 55                    | 7.5                        |
| - 49-50        | .83                   | .75  | 1.24 | 2.82          | 36                    | 5.2                        |
| - 49-55        | 1.24                  | 1.06 | 1.29 | 3.59          | 50                    | 8.2                        |
| - 49-57        | 1.47                  | .88  | 1.22 | 3.56          | 41                    | 5.2                        |
| - 49-58        | 1.26                  | 1.00 | 1.26 | 3.53          | 40                    | 6.2                        |
| - 49-60        | 1.57                  | 1.00 | 1.32 | 3.88          | 50                    | 6.8                        |
| - 49-64        | .88                   | .75  | 1.21 | 2.84          | 34                    | 6.2                        |
| - 49-65        | 1.38                  | .96  | 1.21 | 3.56          | 41                    | 6.5                        |
| - 49-68        | .95                   | .84  | 1.10 | 2.88          | 40                    | 5.5                        |
| - 49-69        | 1.26                  | .85  | 1.28 | 3.38          | 46                    | 6.2                        |
| - 49-72        | 1.06                  | .88  | 1.18 | 3.12          | 46                    | 6.2                        |
| - 49-75        | .96                   | .73  | 1.26 | 2.94          | 40                    | 6.0                        |
| Ranger         | 1.50                  | .94  | 1.23 | 3.66          | 50                    | 6.5                        |
| A-224          | .98                   | .54  | 1.05 | 2.58          | 29                    | 4.0                        |
| A-226          | 1.42                  | .84  | 1.26 | 3.53          | 51                    | 7.2                        |

(Continued)



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Table 3 - 1951 NE-10 Polycross Progeny Test - Continued

| Identification     | Yield - Tons per Acre |        |      |               | Percent stand<br>5/15 | Vigor<br>(10=most)<br>5/15 |
|--------------------|-----------------------|--------|------|---------------|-----------------------|----------------------------|
|                    | 6/15                  | 7/20   | 9/8  | Adj.<br>Total |                       |                            |
| Buffalo            | 1.10                  | 1.00   | 1.16 | 3.26          | 42                    | 7.0                        |
| Narragansett       | 1.26                  | .86    | 1.18 | 3.30          | 51                    | 6.0                        |
| Atlantic           | 1.12                  | .87    | 1.22 | 3.21          | 42                    | 6.0                        |
| Vernal (Wis.Syn-G) | 1.38                  | .85    | 1.14 | 3.36          | 50                    | 6.0                        |
| Average            | 1.43                  | .91    | 1.23 | 3.56          | 45                    | 6.5                        |
| (Rand Blk)         |                       |        |      |               |                       |                            |
| F for varieties    | 1.69**                | 2.51** | .98  | 1.83**        | 2.63**                | 3.34**                     |
| LSD 5 percent      | .72                   | .24    | ---  | .98           | 13                    | 1.4                        |

Table 4 - 1951 NE-10 Alfalfa Polycross Progeny Test  
Caldwell II, 1952-55 Data Summary

| Identification | Yield - Tons per Acre (Adj) |        |        |        | Average yield per year after: |       |       |
|----------------|-----------------------------|--------|--------|--------|-------------------------------|-------|-------|
|                | 1952                        | 1953   | 1954   | 1955   |                               |       |       |
|                | 2 cuts                      | 2 cuts | 3 cuts | 3 cuts | 2 yrs                         | 3 yrs | 4 yrs |
| OYE - C2       | 4.37                        | 4.55   | 5.28   | 3.35   | 4.46                          | 4.73  | 4.39  |
| - C3           | 4.26                        | 4.73   | 4.92   | 3.27   | 4.49                          | 4.63  | 4.29  |
| - C10          | 4.10                        | 4.68   | 5.25   | 4.32   | 4.39                          | 4.67  | 4.59  |
| - C11          | 3.89                        | 4.54   | 4.86   | 3.60   | 4.21                          | 4.42  | 4.22  |
| - C12          | 4.48                        | 4.86   | 5.13   | 3.76   | 4.67                          | 4.82  | 4.56  |
| - C13          | 4.43                        | 4.84   | 4.98   | 3.10   | 4.63                          | 4.74  | 4.34  |
| - C14          | 4.06                        | 4.45   | 4.78   | 3.69   | 4.25                          | 4.43  | 4.24  |
| - C27          | 4.21                        | 4.75   | 5.18   | 3.41   | 4.48                          | 4.71  | 4.39  |
| - C32          | 4.30                        | 4.51   | 4.92   | 3.82   | 4.40                          | 4.57  | 4.39  |
| - C35          | 4.28                        | 4.79   | 5.43   | 4.04   | 4.54                          | 4.83  | 4.64  |
| - C36          | 4.39                        | 4.46   | 5.35   | 3.95   | 4.42                          | 4.73  | 4.54  |
| - C42          | 4.58                        | 4.48   | 5.20   | 4.37   | 4.53                          | 4.75  | 4.66  |
| - C44          | 4.76                        | 5.05   | 5.40   | 3.76   | 4.90                          | 5.07  | 4.74  |
| - C46          | 4.11                        | 4.62   | 4.83   | 3.86   | 4.36                          | 4.52  | 4.36  |
| - C51          | 4.14                        | 4.48   | 4.88   | 3.36   | 4.31                          | 4.50  | 4.22  |
| - C53          | 4.31                        | 4.47   | 4.76   | 4.01   | 4.39                          | 4.51  | 4.39  |
| - C54          | 4.30                        | 4.70   | 5.24   | 3.76   | 4.50                          | 4.75  | 4.50  |
| - C57          | 4.39                        | 4.54   | 4.50   | 3.80   | 4.46                          | 4.48  | 4.31  |
| - C79          | 4.33                        | 4.82   | 5.13   | 3.88   | 4.58                          | 4.76  | 4.54  |
| - C87          | 4.05                        | 4.49   | 4.46   | 3.55   | 4.27                          | 4.33  | 4.14  |
| - C91          | 4.40                        | 4.86   | 5.25   | 4.74   | 4.63                          | 4.84  | 4.81  |
| - C112         | 4.61                        | 4.51   | 5.34   | 4.23   | 4.56                          | 4.82  | 4.67  |
| - C130         | 4.56                        | 4.77   | 4.64   | 4.27   | 4.66                          | 4.66  | 4.56  |
| - C144         | 4.30                        | 4.67   | 4.76   | 3.15   | 4.48                          | 4.58  | 4.22  |

(Continued)

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Table 4 - 1951 NE-10 Polycross Progeny Test - Continued

| Identification | Yield-Tons per Acre (Adj) |        |        |        | Average yield per |       |       |
|----------------|---------------------------|--------|--------|--------|-------------------|-------|-------|
|                | 1952                      | 1953   | 1954   | 1955   | year after:       |       |       |
|                | 2 cuts                    | 2 cuts | 3 cuts | 3 cuts | 2 yrs             | 3 yrs | 4 yrs |
| 07E - C174     | 4.02                      | 4.46   | 5.06   | 4.21   | 4.24              | 4.51  | 4.44  |
| - C175         | 4.34                      | 4.67   | 4.97   | 3.86   | 4.50              | 4.66  | 4.46  |
| - C176         | 4.13                      | 4.71   | 4.83   | 4.05   | 4.42              | 4.56  | 4.43  |
| - C180         | 4.52                      | 4.58   | 4.74   | 2.88   | 4.55              | 4.61  | 4.18  |
| - C183         | 4.79                      | 4.62   | 5.08   | 3.43   | 4.70              | 4.83  | 4.48  |
| - C184         | 3.91                      | 4.49   | 4.92   | 4.32   | 4.20              | 4.44  | 4.41  |
| - C187         | 4.66                      | 4.99   | 5.13   | 3.84   | 4.82              | 4.93  | 4.66  |
| - C188         | 4.32                      | 4.39   | 5.06   | 4.48   | 4.36              | 4.59  | 4.56  |
| - C190         | 4.19                      | 4.32   | 4.83   | 3.58   | 4.26              | 4.45  | 4.23  |
| - C191         | 4.28                      | 4.53   | 4.61   | 3.70   | 4.40              | 4.47  | 4.28  |
| - C195         | 4.36                      | 4.27   | 5.02   | 3.46   | 4.32              | 4.55  | 4.28  |
| - C196         | 4.70                      | 4.88   | 4.91   | 4.28   | 4.79              | 4.83  | 4.69  |
| - C197         | 4.61                      | 4.27   | 4.74   | 2.57   | 4.44              | 4.54  | 4.05  |
| - C199         | 4.70                      | 4.53   | 4.85   | 2.95   | 4.62              | 4.69  | 4.26  |
| - C221         | 5.29                      | 4.74   | 5.14   | 3.56   | 5.02              | 5.06  | 4.68  |
| - C223         | 4.50                      | 4.66   | 4.44   | 3.00   | 4.58              | 4.53  | 4.15  |
| - 5-7          | 4.48                      | 4.53   | 4.87   | 3.40   | 4.50              | 4.63  | 4.32  |
| - 49-6         | 4.73                      | 4.60   | 4.84   | 2.65   | 4.66              | 4.72  | 4.20  |
| - 49-8         | 4.26                      | 4.40   | 4.67   | 3.48   | 4.33              | 4.44  | 4.20  |
| - 49-10        | 4.39                      | 4.48   | 4.94   | 3.44   | 4.44              | 4.60  | 4.31  |
| - 49-13        | 4.02                      | 4.43   | 4.83   | 3.78   | 4.22              | 4.43  | 4.26  |
| - 49-14        | 4.28                      | 4.31   | 4.96   | 3.60   | 4.30              | 4.52  | 4.29  |
| - 49-15        | 4.40                      | 5.08   | 5.19   | 3.79   | 4.74              | 4.89  | 4.62  |
| - 49-19        | 4.46                      | 4.60   | 5.23   | 4.38   | 4.53              | 4.76  | 4.67  |
| - 49-20        | 3.75                      | 4.31   | 5.03   | 3.44   | 4.03              | 4.36  | 4.13  |
| - 49-22        | 4.14                      | 4.99   | 4.80   | 3.77   | 4.56              | 4.64  | 4.42  |
| - 49-26        | 3.88                      | 4.65   | 4.92   | 2.89   | 4.26              | 4.48  | 4.08  |
| Wis. Syn-C     | 4.41                      | 4.90   | 5.20   | 4.06   | 4.66              | 4.84  | 4.64  |
| 07E - 49-32    | 4.02                      | 4.69   | 4.75   | 3.36   | 4.36              | 4.49  | 4.20  |
| - 49-33        | 4.40                      | 4.60   | 5.08   | 4.20   | 4.50              | 4.69  | 4.57  |
| - 49-34        | 4.28                      | 4.50   | 4.79   | 3.20   | 4.39              | 4.52  | 4.19  |
| - 49-35        | 4.78                      | 4.92   | 4.40   | 2.86   | 4.85              | 4.70  | 4.24  |
| - 49-37        | 3.98                      | 4.68   | 4.87   | 3.82   | 4.33              | 4.51  | 4.34  |
| - 49-38        | 4.11                      | 4.70   | 5.18   | 3.34   | 4.40              | 4.66  | 4.33  |
| - 49-39        | 3.73                      | 4.65   | 4.84   | 3.50   | 4.19              | 4.41  | 4.18  |
| - 49-41        | 3.92                      | 4.43   | 5.02   | 2.80   | 4.18              | 4.46  | 4.04  |
| - 49-44        | 3.62                      | 4.63   | 5.09   | 3.52   | 4.12              | 4.45  | 4.22  |
| - 49-45        | 4.03                      | 4.62   | 5.26   | 3.05   | 4.32              | 4.64  | 4.24  |
| - 49-48        | 4.06                      | 4.66   | 5.20   | 3.74   | 4.36              | 4.64  | 4.42  |
| - 49-50        | 4.59                      | 4.82   | 5.09   | 2.82   | 4.70              | 4.83  | 4.33  |

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Table 4 - 1951 NE-10 Polycross Progeny Test - Continued

| Identification | Yield-Tons per Acre (Adj) |                |                |                | Average yield per year after: |       |       |
|----------------|---------------------------|----------------|----------------|----------------|-------------------------------|-------|-------|
|                | 1952<br>2 cuts            | 1953<br>2 cuts | 1954<br>3 cuts | 1955<br>3 cuts | 2 yrs                         | 3 yrs | 4 yrs |
| 07E - 49-55    | 4.75                      | 4.92           | 5.62           | 3.59           | 4.84                          | 5.10  | 4.72  |
| - 49-57        | 4.70                      | 5.01           | 5.18           | 3.56           | 4.86                          | 4.96  | 4.61  |
| - 49-58        | 4.10                      | 4.90           | 5.09           | 3.53           | 4.50                          | 4.70  | 4.40  |
| - 49-60        | 4.49                      | 5.04           | 5.46           | 3.88           | 4.76                          | 5.00  | 4.72  |
| - 49-64        | 3.70                      | 4.43           | 4.92           | 2.84           | 4.06                          | 4.35  | 3.97  |
| - 49-65        | 4.16                      | 4.38           | 5.29           | 3.56           | 4.27                          | 4.61  | 4.35  |
| - 49-68        | 3.77                      | 4.51           | 4.94           | 2.88           | 4.14                          | 4.41  | 4.02  |
| - 49-69        | 4.00                      | 4.59           | 4.87           | 3.38           | 4.30                          | 4.49  | 4.21  |
| - 49-72        | 4.83                      | 4.76           | 5.20           | 3.12           | 4.80                          | 4.93  | 4.48  |
| - 49-75        | 5.19                      | 4.76           | 4.93           | 2.94           | 4.98                          | 4.96  | 4.46  |
| Ranger         | 4.03                      | 4.68           | 5.08           | 3.66           | 4.36                          | 4.60  | 4.36  |
| A-224          | 4.04                      | 4.26           | 4.29           | 2.58           | 4.15                          | 4.20  | 3.79  |
| A-226          | 4.00                      | 4.48           | 5.18           | 3.53           | 4.24                          | 4.55  | 4.30  |
| Buffalo        | 3.92                      | 4.34           | 4.98           | 3.26           | 4.13                          | 4.41  | 4.12  |
| Narragansett   | 4.20                      | 4.82           | 5.00           | 3.30           | 4.51                          | 4.67  | 4.33  |
| Atlantic       | 4.61                      | 4.83           | 4.94           | 3.21           | 4.72                          | 4.79  | 4.40  |
| Vernal         | 4.34                      | 4.38           | 4.56           | 3.36           | 4.36                          | 4.43  | 4.16  |
| Average        | 4.31                      | 4.63           | 4.98           | 3.56           | 4.47                          | 4.64  | 4.37  |
| LSD .05        | .56                       | .59            | .47            | .53            | .57                           | .54   | .54   |
| Lattice        |                           |                |                |                |                               |       |       |
| Efficiency     | 199%                      | 190%           | 201%           | 340%           |                               |       |       |

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Table 5 - 1951 Alfalfa Variety Trial -Caldwell IV - Ithaca-1955

Broadcast seeded May 9, 1951 in 5 ft x 20 ft plots at seeding rate of 12 pounds per acre. 8 x 8 simple lattice design with four replications

| Identification            | Yield - Tons per Acre |      |      |       | Percent Legume |      |     | Percent Stand |      |
|---------------------------|-----------------------|------|------|-------|----------------|------|-----|---------------|------|
|                           | 6/8                   | 7/20 | 9/9  | Total | 6/8            | 7/20 | 9/9 | 5/8           | 9/30 |
| A-231 Syn-1               | 2.16                  | 1.27 | 1.63 | 5.05  | 84             | 100  | 100 | 48            | 54   |
| A-231 Syn-2               | 2.47                  | 1.40 | 1.82 | 5.68  | 95             | "    | 100 | 58            | 58   |
| 00-2660                   | 1.68                  | 1.06 | 1.40 | 4.14  | 68             | "    | 96  | 40            | 38   |
| Cossack                   | 1.27                  | .95  | 1.50 | 3.72  | 60             | "    | 99  | 30            | 24   |
| Grimm FC.23647            | 1.41                  | 1.06 | 1.44 | 3.91  | 61             | "    | 96  | 31            | 38   |
| Ladak                     | .98                   | .67  | 1.18 | 2.82  | 54             | "    | 38  | 21            | 7    |
| Narragansett              | 1.19                  | .84  | 1.30 | 3.32  | 54             | "    | 92  | 29            | 22   |
| Oklahoma Common           | 1.87                  | 1.04 | 1.65 | 4.56  | 88             | "    | 98  | 42            | 35   |
| Talent                    | 1.60                  | 1.23 | 1.32 | 4.16  | 70             | "    | 96  | 39            | 38   |
| Williamsburg              | 2.26                  | 1.22 | 1.55 | 5.03  | 89             | "    | 98  | 48            | 48   |
| Atlantic                  | 1.76                  | 1.00 | 1.54 | 4.30  | 76             | "    | 98  | 44            | 44   |
| Buffalo                   | 1.91                  | 1.14 | 1.73 | 4.78  | 80             | "    | 99  | 46            | 46   |
| Kansas Common             | 1.91                  | 1.34 | 1.80 | 5.04  | 76             | "    | 100 | 50            | 49   |
| Ranger                    | 1.86                  | 1.13 | 1.69 | 4.68  | 72             | "    | 99  | 40            | 44   |
| Syn-A Wis. 1949 G.B       | 2.06                  | 1.22 | 1.62 | 4.90  | 91             | "    | 99  | 44            | 45   |
| Syn-B " " "               | 1.75                  | 1.01 | 1.58 | 4.34  | 80             | "    | 96  | 40            | 36   |
| Syn-C " 1950 Logan        | 2.20                  | 1.49 | 1.74 | 5.43  | 90             | "    | 99  | 54            | 51   |
| Syn-E " 1948 Wis          | 2.34                  | 1.49 | 1.84 | 5.66  | 92             | "    | 100 | 51            | 56   |
| Vernal - Wis              | 2.07                  | 1.18 | 1.63 | 4.88  | 84             | "    | 96  | 48            | 40   |
| Atlantic 1948 N.J.        | 1.37                  | .84  | 1.55 | 3.76  | 60             | "    | 96  | 36            | 32   |
| Atlantic 1949 N.J.        | 2.13                  | 1.17 | 1.70 | 5.00  | 84             | "    | 100 | 40            | 46   |
| Atlantic 1950 N.J.        | 2.05                  | 1.07 | 1.65 | 4.78  | 86             | "    | 99  | 40            | 34   |
| Grimm 1950 Idaho          | 1.34                  | .97  | 1.45 | 3.76  | 68             | "    | 98  | 31            | 31   |
| Buffalo 1949              | 2.36                  | 1.41 | 1.64 | 5.42  | 95             | "    | 99  | 55            | 55   |
| Du Puits 1950             | 1.92                  | 1.16 | 1.51 | 4.60  | 74             | "    | 96  | 35            | 32   |
| Kansas Common 1950        | 2.58                  | 1.36 | 1.79 | 5.74  | 99             | "    | 100 | 58            | 54   |
| Narragansett 1946         | 1.54                  | 1.02 | 1.43 | 4.00  | 62             | "    | 98  | 34            | 28   |
| Narragansett 1948         | 1.14                  | .90  | 1.35 | 3.40  | 55             | "    | 95  | 32            | 27   |
| Narragansett 1950         | 1.77                  | 1.16 | 1.42 | 4.35  | 78             | "    | 95  | 44            | 26   |
| Ontario Variegated 1950   | 1.48                  | .98  | 1.48 | 3.94  | 60             | "    | 92  | 28            | 22   |
| Ranger 1950               | 1.79                  | 1.13 | 1.54 | 4.47  | 84             | "    | 98  | 42            | 45   |
| Ranger 1949               | 1.73                  | 1.12 | 1.53 | 4.38  | 75             | "    | 95  | 42            | 42   |
| Rhizoma 1948 B.C.         | 1.27                  | .94  | 1.18 | 3.40  | 68             | "    | 90  | 28            | 22   |
| Rhizoma 1949 "            | 1.25                  | .99  | 1.17 | 3.41  | 61             | "    | 92  | 30            | 26   |
| Du Puits Dunn's Ltd. 1951 | 1.98                  | 1.25 | 1.44 | 4.68  | 78             | "    | 92  | 35            | 38   |
| Ille de France Dunn's     | 1.49                  | 1.00 | 1.37 | 3.86  | 56             | "    | 92  | 31            | 28   |

(Continued)



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Table 5 - 1951 Varietal Trial, Caldwell IV - Continued

| Identification                      | Yield -Tons per Acre |        |        |        | Percent Legume |      |     | % Stalk |      |
|-------------------------------------|----------------------|--------|--------|--------|----------------|------|-----|---------|------|
|                                     | 6/8                  | 7/20   | 9/9    | Total  | 6/8            | 7/20 | 9/9 | 5/8     | 9/30 |
| Marlborough Dunn's                  | 2.09                 | 1.28   | 1.52   | 4.89   | 76             | 100  | 96  | 41      | 39   |
| Provence "                          | 1.94                 | .94    | 1.45   | 4.33   | 78             | "    | 95  | 40      | 29   |
| Flamande "                          | 1.52                 | 1.00   | 1.22   | 3.74   | 59             | "    | 86  | 32      | 27   |
| Rhizoma "                           | .76                  | .76    | .98    | 2.51   | 48             | "    | 84  | 22      | 10   |
| English "                           | 1.27                 | .80    | 1.10   | 3.18   | 58             | "    | 90  | 18      | 10   |
| Socheville                          | 2.28                 | 1.26   | 1.45   | 4.99   | 92             | "    | 95  | 34      | 29   |
| C-5 NE-10 Polycross                 | 2.42                 | 1.28   | 1.58   | 5.28   | 91             | "    | 99  | 48      | 45   |
| Buffalo 1947 Kans.<br>Non-certified | 2.07                 | 1.34   | 1.69   | 5.10   | 84             | "    | 100 | 50      | 48   |
| C125 NE-10 Polycross                | 1.89                 | 1.14   | 1.61   | 4.64   | 74             | "    | 99  | 36      | 44   |
| C170 " "                            | 1.82                 | 1.02   | 1.62   | 4.46   | 84             | "    | 96  | 35      | 31   |
| C172 " "                            | 2.02                 | 1.19   | 1.54   | 4.75   | 90             | "    | 100 | 36      | 40   |
| C181 " "                            | 2.19                 | 1.20   | 1.66   | 5.04   | 95             | "    | 96  | 51      | 60   |
| C186 " "                            | 1.53                 | .96    | 1.56   | 4.05   | 74             | "    | 95  | 35      | 21   |
| C247 " "                            | 1.90                 | 1.12   | 1.62   | 4.64   | 76             | "    | 96  | 56      | 46   |
| 49-5 " "                            | 2.18                 | 1.30   | 1.62   | 5.10   | 84             | "    | 99  | 52      | 54   |
| 49-9 " "                            | 2.14                 | 1.33   | 1.62   | 5.09   | 76             | "    | 99  | 48      | 54   |
| 49-18 " "                           | 2.11                 | 1.34   | 1.64   | 5.09   | 72             | "    | 100 | 58      | 65   |
| 49-21 " "                           | 2.22                 | 1.21   | 1.58   | 5.00   | 88             | "    | 99  | 51      | 51   |
| 49-23 " "                           | 2.00                 | 1.14   | 1.62   | 4.75   | 84             | "    | 100 | 41      | 46   |
| 49-28 " "                           | 2.07                 | 1.14   | 1.41   | 4.62   | 92             | "    | 96  | 46      | 46   |
| 49-31 " "                           | 1.98                 | 1.24   | 1.60   | 4.82   | 85             | "    | 100 | 44      | 46   |
| 49-40 " "                           | 2.54                 | 1.39   | 1.69   | 5.63   | 96             | "    | 100 | 69      | 66   |
| 49-42 " "                           | 2.22                 | 1.23   | 1.64   | 5.10   | 89             | "    | 99  | 51      | 46   |
| 49-46 " "                           | 2.20                 | 1.43   | 1.69   | 5.32   | 85             | "    | 100 | 45      | 45   |
| 49-47 " "                           | 2.27                 | 1.37   | 1.61   | 5.25   | 91             | "    | 100 | 56      | 58   |
| 49-61 " "                           | 2.15                 | 1.27   | 1.77   | 5.19   | 84             | "    | 99  | 49      | 51   |
| 49-27 or 67 Lot #1<br>NE-10 PC      | 2.31                 | 1.34   | 1.67   | 5.33   | 95             | "    | 100 | 52      | 51   |
| 49-27 or 67 Lot #2<br>NE-10 PC      | 1.94                 | 1.23   | 1.55   | 4.72   | 86             | "    | 99  | 48      | 49   |
| Maximum                             | 2.58                 | 1.49   | 1.84   | 5.74   |                |      |     | 69      | 66   |
| Minimum                             | .76                  | .67    | .98    | 2.51   |                |      |     | 18      | 7    |
| Average                             | 1.88                 | 1.15   | 1.54   | 4.56   | 78             | 100  | 97  | 42      | 40   |
| F for varieties                     | 2.15**               | 2.21** | 2.53** | 2.51** |                |      |     | 3.15**  |      |
| L.S.D. P= .05                       | .76                  | .34    | .31    | 1.26   |                |      |     | 16      |      |
| Coeff. of varieties<br>Percent      | 29.2                 | 21.3   | 14.5   | 19.9   |                |      |     | 27.0    |      |



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Table 6 - 1952-1955 Summary  
1951 Alfalfa Variety Trial - Caldwell IV, Ithaca  
Management - 3 cuttings per season

| Variety              | Yield- Tons per acre |                      | : Av. yield after: |          | : Percent stand               |      |    |    |    |    |
|----------------------|----------------------|----------------------|--------------------|----------|-------------------------------|------|----|----|----|----|
|                      | : 1952               | : 1953 : 1954 : 1955 | : 2 yrs:           | : 3 yrs: | 4 yrs:10/52: 5/53:10/54: 9/55 |      |    |    |    |    |
| A-231 Syn 1          | 4.86                 | 6.12                 | 5.05               | 5.49     | 5.70                          | 5.54 | 72 | 63 | 59 | 54 |
| A-231 Syn-2          | 5.07                 | 5.90                 | 5.68               | 5.48     | 5.61                          | 5.63 | 85 | 66 | 62 | 58 |
| 00-266 O             | 5.52                 | 6.35                 | 4.14               | 5.94     | 5.90                          | 5.46 | 94 | 73 | 57 | 38 |
| Cossack              | 5.03                 | 5.32                 | 3.72               | 5.18     | 5.26                          | 4.87 | 85 | 68 | 55 | 24 |
| Grimm FC.23647       | 4.83                 | 5.44                 | 3.91               | 5.14     | 5.14                          | 4.84 | 82 | 66 | 61 | 38 |
| Ladak                | 3.80                 | 4.11                 | 2.82               | 3.96     | 4.10                          | 3.78 | 66 | 50 | 20 | 7  |
| Narragansett         | 5.39                 | 5.47                 | 3.32               | 5.43     | 5.39                          | 4.88 | 85 | 70 | 42 | 22 |
| Oklahoma Common      | 5.20                 | 5.96                 | 4.56               | 5.58     | 5.54                          | 5.29 | 87 | 65 | 57 | 35 |
| Talent               | 4.74                 | 5.04                 | 4.16               | 4.89     | 4.92                          | 4.73 | 92 | 66 | 64 | 38 |
| Williamsburg         | 5.36                 | 5.81                 | 5.03               | 5.58     | 5.75                          | 5.57 | 87 | 66 | 65 | 48 |
| Atlantic             | 5.16                 | 5.88                 | 4.30               | 5.52     | 5.50                          | 5.20 | 87 | 69 | 62 | 44 |
| Buffalo              | 5.22                 | 5.62                 | 4.78               | 5.42     | 5.60                          | 5.39 | 85 | 69 | 62 | 46 |
| Kansas Common        | 5.18                 | 5.70                 | 5.04               | 5.44     | 5.57                          | 5.44 | 87 | 66 | 62 | 49 |
| Ranger               | 5.28                 | 5.30                 | 4.68               | 5.29     | 5.35                          | 5.18 | 75 | 60 | 59 | 44 |
| Syn-A Wis.1949 G.B.  | 5.21                 | 5.24                 | 4.90               | 5.22     | 5.39                          | 5.27 | 77 | 64 | 57 | 45 |
| Syn-B Wis "          | 5.06                 | 5.51                 | 4.34               | 5.28     | 5.35                          | 5.10 | 80 | 68 | 54 | 36 |
| Syn-C Wis.1950 Logan | 5.35                 | 6.12                 | 5.43               | 5.74     | 5.80                          | 5.70 | 84 | 68 | 59 | 51 |
| Syn-E Wis.1948 Wis.  | 5.48                 | 5.87                 | 5.66               | 5.68     | 5.67                          | 5.67 | 81 | 70 | 61 | 56 |
| Vernal               | 5.08                 | 5.58                 | 4.88               | 5.33     | 5.44                          | 5.30 | 76 | 64 | 50 | 40 |
| Atlantic 1948 N.J.   | 5.62                 | 6.12                 | 3.76               | 5.87     | 5.77                          | 5.27 | 87 | 73 | 51 | 32 |
| Atlantic 1949 N.J.   | 5.57                 | 5.66                 | 5.57               | 5.62     | 5.60                          | 5.45 | 86 | 71 | 60 | 46 |
| Atlantic 1950 N.J.   | 5.38                 | 6.04                 | 4.78               | 5.71     | 5.73                          | 5.49 | 82 | 70 | 57 | 34 |
| Grimm 1950 Idaho     | 5.32                 | 5.60                 | 3.76               | 5.46     | 5.43                          | 5.01 | 90 | 69 | 55 | 31 |
| Buffalo 1949         | 5.15                 | 5.58                 | 5.42               | 5.36     | 5.46                          | 5.45 | 82 | 61 | 65 | 55 |
| Du Puits 1950        | 6.04                 | 6.49                 | 4.60               | 6.26     | 6.20                          | 5.80 | 90 | 75 | 60 | 32 |
| Kansas Common 1950   | 5.17                 | 6.02                 | 5.74               | 5.60     | 5.73                          | 5.73 | 81 | 69 | 65 | 54 |
| Narragansett 1946    | 5.33                 | 5.94                 | 4.00               | 5.64     | 5.67                          | 5.25 | 75 | 68 | 50 | 28 |
| Narragansett 1948    | 5.47                 | 5.70                 | 3.40               | 5.58     | 5.61                          | 5.06 | 80 | 69 | 50 | 27 |

(Continued)

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Table 6 - 1952-1955 Summary - Continued

| Variety                 | Yield - Tons per acre |               | : Av. yield after:   |         | : Percent Stand |      |    |    |    |    |
|-------------------------|-----------------------|---------------|----------------------|---------|-----------------|------|----|----|----|----|
|                         | : 1952 : 1953         | : 1954 : 1955 | : 2yrs: 3 yrs: 4 yrs | : 10/52 | 5/53:10/54:     | 9/55 |    |    |    |    |
| Narragansett 1950       | 5.14                  | 5.56          | 5.80                 | 4.35    | 5.35            | 5.21 | 75 | 63 | 54 | 26 |
| Ontario Variegated 1950 | 5.81                  | 5.97          | 5.30                 | 3.94    | 5.89            | 5.69 | 85 | 70 | 51 | 22 |
| Ranger 1950             | 5.19                  | 5.36          | 5.78                 | 4.47    | 5.28            | 5.44 | 84 | 69 | 56 | 45 |
| Ranger 1949 C.D.        | 5.08                  | 5.39          | 5.55                 | 4.38    | 5.24            | 5.34 | 79 | 66 | 57 | 42 |
| Rhizoma 1948 B.C.       | 5.24                  | 5.43          | 5.14                 | 3.40    | 5.34            | 5.27 | 84 | 74 | 55 | 22 |
| Rhizoma 1949 B.C.       | 4.82                  | 5.36          | 5.09                 | 3.41    | 5.09            | 4.67 | 77 | 64 | 49 | 26 |
| Du Puits Dunn's 1951    | 5.99                  | 6.18          | 6.02                 | 4.68    | 6.08            | 6.06 | 79 | 61 | 59 | 38 |
| Ille de France " "      | 5.91                  | 6.08          | 5.87                 | 3.86    | 6.00            | 5.95 | 85 | 64 | 51 | 28 |
| Marlborough 1951        | 6.09                  | 6.17          | 6.06                 | 4.89    | 6.13            | 6.11 | 82 | 63 | 57 | 39 |
| Provence " "            | 5.71                  | 5.87          | 5.80                 | 4.33    | 5.79            | 5.43 | 86 | 69 | 64 | 29 |
| Flamande " "            | 6.65                  | 6.22          | 5.68                 | 3.74    | 6.48            | 6.22 | 82 | 65 | 50 | 27 |
| Rhizoma " "             | 4.57                  | 5.33          | 4.76                 | 2.51    | 4.95            | 4.89 | 69 | 48 | 30 | 10 |
| English " "             | 3.77                  | 5.59          | 4.86                 | 3.18    | 4.68            | 4.74 | 60 | 41 | 34 | 10 |
| Socheville " "          | 6.39                  | 6.42          | 5.97                 | 4.99    | 6.40            | 6.26 | 67 | 59 | 54 | 29 |
| C-5 NE-10 Poly.         | 4.98                  | 5.79          | 5.68                 | 5.28    | 5.38            | 5.48 | 82 | 66 | 59 | 45 |
| Buffalo 1947 (Kans)     | 5.20                  | 5.79          | 5.81                 | 5.10    | 5.50            | 5.60 | 80 | 65 | 62 | 48 |
| C-125 NE-10 P.C.        | 4.60                  | 5.10          | 5.22                 | 4.64    | 4.85            | 4.97 | 72 | 59 | 52 | 44 |
| C-170 " "               | 5.14                  | 5.92          | 5.38                 | 4.46    | 5.53            | 5.48 | 80 | 63 | 52 | 34 |
| C-172 " "               | 5.05                  | 5.79          | 5.72                 | 4.75    | 5.42            | 5.52 | 77 | 58 | 50 | 40 |
| C-181 " "               | 5.58                  | 6.30          | 5.96                 | 5.04    | 5.94            | 5.95 | 84 | 68 | 61 | 60 |
| C-186 " "               | 4.50                  | 5.19          | 4.97                 | 4.05    | 4.84            | 4.89 | 65 | 46 | 41 | 21 |
| C-247 " "               | 5.65                  | 5.78          | 5.75                 | 4.64    | 5.72            | 5.73 | 85 | 78 | 62 | 46 |
| 49-5 " "                | 4.90                  | 5.45          | 5.81                 | 5.10    | 5.18            | 5.39 | 85 | 68 | 65 | 54 |
| 49-9 " "                | 5.92                  | 6.36          | 6.13                 | 5.09    | 6.14            | 6.14 | 87 | 69 | 62 | 52 |
| 49-18 " "               | 6.15                  | 5.72          | 5.86                 | 5.09    | 5.94            | 5.91 | 99 | 71 | 70 | 65 |
| 49-21 " "               | 5.22                  | 5.82          | 5.98                 | 5.00    | 5.52            | 5.67 | 77 | 63 | 61 | 51 |
| 49-23 " "               | 5.18                  | 5.34          | 5.63                 | 4.75    | 5.26            | 5.38 | 77 | 60 | 57 | 46 |
| 49-28 " "               | 5.10                  | 5.49          | 5.86                 | 4.62    | 5.30            | 5.48 | 77 | 64 | 61 | 46 |

(Continued)

Table 6 - 1952-1955 Summary - Continued

| Variety                             | Yield - Tons per Acre |      | Average yield after: |          |       |       | Percent stand |       |    |    |    |
|-------------------------------------|-----------------------|------|----------------------|----------|-------|-------|---------------|-------|----|----|----|
|                                     | 1952                  | 1953 | 1954                 | 1955     | 2 yrs | 3 yrs |               | 4 yrs |    |    |    |
| 49-31 NE-10 P.C.                    | 5.20                  | 5.56 | 5.71                 | 4.82     | 5.38  | 5.49  | 5.32          | 70    | 58 | 57 | 46 |
| 49-40 "                             | 5.85                  | 5.56 | 5.77                 | 5.63     | 5.70  | 5.73  | 5.70          | 90    | 79 | 67 | 66 |
| 49-42 "                             | 5.34                  | 6.16 | 5.84                 | 5.10     | 5.75  | 5.78  | 5.61          | 79    | 68 | 60 | 46 |
| 49-46 "                             | 5.18                  | 5.78 | 5.64                 | 5.32     | 5.48  | 5.53  | 5.48          | 72    | 61 | 52 | 45 |
| 49-47 "                             | 5.12                  | 5.52 | 5.85                 | 5.25     | 5.32  | 5.50  | 5.44          | 79    | 63 | 62 | 58 |
| 49-61 "                             | 5.15                  | 5.76 | 5.40                 | 5.19     | 5.46  | 5.44  | 5.38          | 79    | 61 | 57 | 51 |
| 49-27 or 67 NE-10 PC                | 5.11                  | 5.44 | 5.72                 | 5.33     | 5.28  | 5.42  | 5.40          | 79    | 69 | 60 | 51 |
| 49-27 or 67 "                       | 5.66                  | 6.04 | 5.71                 | 4.72     | 5.85  | 5.80  | 5.53          | 82    | 68 | 62 | 49 |
| Average                             | 5.29                  | 5.81 | 5.63                 | 4.56     | 5.55  | 5.58  | 5.32          | 81    | 79 | 56 | 40 |
| L.S.D. (P=.05)                      | .88                   | .55  | .54                  | 1.26(av) | .72   | .66   | .81           |       |    |    |    |
| Average of all lots - # lots tested |                       |      |                      |          |       |       |               |       |    |    |    |
| Narragansett                        | 5.33                  | 5.67 | 5.63                 | 3.77     | 5.50  | 5.54  | 5.10          | 79    | 67 | 49 | 26 |
| Ranger                              | 5.18                  | 5.34 | 5.60                 | 4.51     | 5.27  | 5.38  | 5.16          | 80    | 65 | 57 | 44 |
| Du Puits                            | 6.01                  | 6.33 | 6.04                 | 4.64     | 6.17  | 6.13  | 5.76          | 84    | 68 | 59 | 35 |
| Atlantic                            | 5.43                  | 5.92 | 5.59                 | 4.46     | 5.68  | 5.65  | 5.35          | 85    | 71 | 57 | 39 |
| Vernal                              | 5.08                  | 5.58 | 5.66                 | 4.88     | 5.33  | 5.44  | 5.30          | 76    | 64 | 50 | 40 |
| Rhizoma                             | 4.87                  | 5.37 | 4.99                 | 3.10     | 5.12  | 5.08  | 4.58          | 77    | 62 | 45 | 19 |



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Table 7 - 1952 Alfalfa Variety Trial - Canton  
1955 data

Broadcast seeded May 2, 1952 in 5 ft x 20 ft plots at seeding rate of 12 pounds per acre in a randomized block design. Establishment very good during mild winter of 1952-53. Winters of 1953-54 and 1954-55 were about average for this northern location.

| Variety                 | Yield - Tons per Acre |        |        | Percent alfalfa |      |
|-------------------------|-----------------------|--------|--------|-----------------|------|
|                         | 6/17                  | 8/3    | Total  | 6/17            | 8/18 |
| Atlantic FC.23802       | 2.50                  | 1.40   | 3.90   | 76              | 88   |
| Buffalo, Kans.          | 2.54                  | 1.23   | 3.77   | 77              | 86   |
| Du Puits, U.S.D.A.      | 3.06                  | 1.41   | 4.47   | 89              | 97   |
| Grimm FC.23647          | 2.40                  | 1.46   | 3.86   | 72              | 85   |
| Grimm, Comm. Wash.      | 2.38                  | 1.31   | 3.69   | 70              | 86   |
| Kansas Common, Kans.    | 2.46                  | 1.47   | 3.92   | 75              | 87   |
| Ladak Commercial, USDA  | 1.98                  | 1.05   | 3.03   | 62              | 82   |
| Narragansett FC.24333   | 2.58                  | 1.59   | 4.16   | 75              | 85   |
| Nomad, USDA, FC.24033   | 1.46                  | .61    | 2.08   | 48              | 58   |
| Ranger, Calif. Cert.    | 2.33                  | 1.27   | 3.60   | 68              | 86   |
| Rhizoma 1949 B.C.       | 2.43                  | 1.39   | 3.83   | 74              | 85   |
| Sevelra, USDA, FC.24043 | 2.49                  | 1.43   | 3.92   | 74              | 85   |
| Williamsburg, USDA      | 2.65                  | 1.38   | 4.03   | 77              | 88   |
| Syn-G, Wis.             | 2.36                  | 1.22   | 3.58   | 70              | 87   |
| Syn-C, Wis. USDA        | 2.48                  | 1.38   | 3.86   | 72              | 87   |
| A-224 Neb               | 1.86                  | 1.00   | 2.86   | 58              | 74   |
| A-225 Neb               | 2.64                  | 1.34   | 3.98   | 72              | 85   |
| Ranger FC.23668         | 2.65                  | 1.34   | 3.99   | 76              | 87   |
| Ontario Variegated      |                       |        |        |                 |      |
| McDonald & Sons 1949    | 2.60                  | 1.36   | 3.96   | 82              | 89   |
| Canadian Variegated     |                       |        |        |                 |      |
| C-D, 1952               | 2.48                  | 1.45   | 3.93   | 75              | 88   |
| Average                 | 2.42                  | 1.30   | 3.72   | 72              | 85   |
| F for varieties         | 5.92**                | 6.14** | 7.39** |                 |      |
| LSD .05                 | .38                   | .24    | .54    |                 |      |



Table 8 - 1952 Alfalfa Variety Trial - Canton

Summary 1953-55 Data  
Management -- 2 cuttings per year

| Variety             | Yield -Tons per Acre |      |      | Average Yield per year after: |         |
|---------------------|----------------------|------|------|-------------------------------|---------|
|                     | 1953                 | 1954 | 1955 | 2 years                       | 3 years |
| Atlantic            | 4.68                 | 4.90 | 3.90 | 4.79                          | 4.49    |
| Buffalo             | 4.76                 | 4.77 | 3.77 | 4.76                          | 4.43    |
| Du Puits            | 5.37                 | 5.72 | 4.47 | 5.54                          | 5.19    |
| Grimm               | 4.56                 | 4.66 | 3.86 | 4.61                          | 4.36    |
| Grimm (Wash)        | 4.60                 | 4.71 | 3.69 | 4.66                          | 4.33    |
| Kansas Common       | 4.56                 | 4.79 | 3.92 | 4.68                          | 4.42    |
| Ladak               | 4.86                 | 4.54 | 3.03 | 4.70                          | 4.14    |
| Narragansett        | 4.84                 | 5.22 | 4.16 | 5.03                          | 4.74    |
| Nomad               | 4.24                 | 3.88 | 2.08 | 4.06                          | 3.40    |
| Ranger (Calif)      | 4.51                 | 4.73 | 3.60 | 4.62                          | 4.28    |
| Rhizoma             | 4.94                 | 4.83 | 3.83 | 4.88                          | 4.53    |
| Sevelra             | 4.70                 | 4.74 | 3.92 | 4.72                          | 4.45    |
| Williamsburg        | 4.83                 | 4.74 | 4.03 | 4.78                          | 4.53    |
| Vernal              | 5.00                 | 4.96 | 3.58 | 4.98                          | 4.51    |
| Syn-C Wis           | 4.94                 | 5.06 | 3.86 | 5.00                          | 4.62    |
| A-224               | 4.70                 | 4.23 | 2.86 | 4.46                          | 3.93    |
| A-225               | 4.96                 | 4.77 | 3.98 | 4.86                          | 4.57    |
| Ranger              | 4.83                 | 4.91 | 3.99 | 4.87                          | 4.58    |
| Ontario Variegated  | 4.79                 | 5.19 | 3.96 | 4.99                          | 4.65    |
| Canadian Variegated | 5.00                 | 4.86 | 3.93 | 4.93                          | 4.60    |
| Average             | 4.78                 | 4.81 | 3.72 | 4.80                          | 4.44    |
| LSD P= .05          | .44                  | .46  | .54  | .45                           | .48     |

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Table 9 - 1953 Alfalfa Variety and Management Yield Trial - Ketola

Seeded May 14, 1953 in 4 replications

Broadcast plots 5 ft x 20 ft.

Management - 2 cuttings per season

| Variety and Source                 | Yield-Tons/Acre |      |       | Percent alfalfa |      | Vigor             | Color |
|------------------------------------|-----------------|------|-------|-----------------|------|-------------------|-------|
|                                    | 6/27            | 8/19 | Total | 6/27            | 8/19 | (10=Best)<br>5/21 | 5/21  |
| Atlantic Certified Stanford 1953   | 2.78            | 1.07 | 3.85  | 99              | 99   | 7.5               | 6.5   |
| Du Puits FC.24648                  | 3.03            | 1.18 | 4.21  | 100             | 100  | 8.5               | 7.0   |
| Grimm -Idaho Cert. FC.23647        | 2.65            | 1.06 | 3.71  | 94              | 97   | 6.5               | 6.8   |
| Narragansett Cert. Stanford 1953   | 2.72            | 1.06 | 3.78  | 96              | 98   | 7.0               | 7.8   |
| Ranger Certified Stanford 1953     | 2.70            | .84  | 3.54  | 97              | 100  | 6.8               | 5.8   |
| Rhizoma FC.24798                   | 2.61            | .99  | 3.60  | 97              | 99   | 6.3               | 8.2   |
| Socheville Rousett & Fils 1953     | 2.85            | 1.22 | 4.07  | 98              | 100  | 8.8               | 7.0   |
| Vernal - Wisconsin 1953            | 2.73            | 1.09 | 3.82  | 95              | 97   | 7.0               | 7.3   |
| A-224 Utah 1953                    | 2.73            | .92  | 3.65  | 98              | 99   | 6.2               | 6.8   |
| A-225 Neb 1952 & 1947              | 2.93            | 1.02 | 3.95  | 97              | 98   | 7.2               | 6.3   |
| Nomad FC.24687                     | 2.52            | .76  | 3.28  | 92              | 91   | 5.2               | 5.7   |
| Ontario Variegated 1950            | 2.86            | 1.19 | 4.05  | 95              | 98   | 7.8               | 7.3   |
| Sevelra FC.24660                   | 2.77            | .95  | 3.72  | 99              | 100  | 7.0               | 6.8   |
| Talent FC.24702                    | 2.23            | 1.06 | 3.29  | 96              | 100  | 7.3               | 6.2   |
| Williamsburg FC.24803              | 2.79            | 1.06 | 3.85  | 96              | 96   | 7.7               | 6.5   |
| Churchville Sel. (Riga)            | 2.64            | 1.02 | 3.66  | 98              | 100  | 7.5               | 6.5   |
| Grimm - Montana Cert. 1953         | 2.95            | 1.10 | 4.05  | 99              | 98   | 7.0               | 7.2   |
| (736-C2 x C10) x (736-C8 x C21)Neb | 2.97            | .97  | 3.94  | 99              | 99   | 6.7               | 7.0   |
| N.Y.2 Neb 1952 crop                | 3.00            | .95  | 3.95  | 97              | 98   | 6.3               | 7.8   |
| " 8 " " "                          | 2.91            | .88  | 3.79  | 98              | 98   | 6.2               | 7.7   |
| " 10 N.Y. 1952 C10 x C27           | 2.69            | .98  | 3.67  | 99              | 100  | 6.0               | 6.7   |
| " 11 " " C27 x C53                 | 2.43            | .73  | 3.16  | 93              | 89   | 5.7               | 7.3   |
| " 12 " " C27 x C57                 | 2.41            | 1.06 | 3.47  | 96              | 98   | 5.0               | 5.7   |
| " 13 " " C27 x C134                | 2.55            | .90  | 3.45  | 99              | 100  | 6.3               | 5.7   |
| " 14 " " C27 x C199                | 2.53            | .89  | 3.42  | 98              | 100  | 5.3               | 7.5   |
| " 15 " " C53 x C57                 | 2.73            | 1.01 | 3.74  | 96              | 98   | 5.3               | 7.3   |
| " 16 " " C53 x C134                | 2.59            | .81  | 3.40  | 96              | 96   | 5.7               | 7.3   |
| " 17 " " C53 x C199                | 2.59            | .78  | 3.37  | 96              | 97   | 5.0               | 8.3   |
| NY 18 N.Y.1952 crop C57 x C199     | 2.31            | .90  | 3.21  | 94              | 95   | 3.8               | 6.0   |
| " 19 " " C134 x C196               | 2.52            | .91  | 3.43  | 99              | 100  | 6.5               | 7.2   |
| " 20 " " C196 x C199               | 2.61            | .81  | 3.42  | 95              | 96   | 5.0               | 7.7   |
| " 21 " " C57 x C134                | 2.40            | 1.07 | 3.47  | 94              | 98   | 4.8               | 5.0   |
| 736-C2 x C10 Syn-3 Neb             | 2.76            | .89  | 3.65  | 94              | 97   | 6.2               | 5.8   |
| 736-C8 x C21 " " "                 | 2.94            | .81  | 3.75  | 98              | 98   | 6.5               | 7.8   |
| 736-C10 x C21 " " "                | 2.95            | 1.01 | 3.96  | 99              | 98   | 6.7               | 6.3   |
| 736-C17 x C19 " " "                | 2.38            | .76  | 3.13  | 93              | 95   | 6.0               | 6.0   |

(Continued)

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Table 9 - 1953 Variety &amp; Management Yield - Continued

| Variety and Source                      | Yield-Tons/Acre    |      |       | Percent alfalfa |      | Vigor<br>(10=Best) | Color |
|-----------------------------------------|--------------------|------|-------|-----------------|------|--------------------|-------|
|                                         | 6/27               | 8/19 | Total | 6/27            | 8/19 | 5/21               | 5/21  |
| (56-C2 x C10) x (56-C17 x C19)          | 2.64               | .82  | 3.46  | 97              | 99   | 7.0                | 5.5   |
| (736-C2 x C10) x (736-C17 x C19)        | 2.70               | .89  | 3.58  | 97              | 98   | 6.5                | 5.8   |
| (8336-C2 x C10)x(8336-C17 x C19)        | 2.76               | .92  | 3.67  | 97              | 98   | 6.7                | 6.3   |
| (93336-C2 x C10) x<br>(9336-C17 x C19)  | 2.67               | .94  | 3.62  | 92              | 95   | 6.7                | 6.0   |
| (56-C8 x C10) x (56-C17 x C19)          | 2.62               | .85  | 3.46  | 96              | 95   | 7.0                | 6.8   |
| (736-C8 x C10)x (736-C17 x C19)         | 2.67               | .86  | 3.53  | 97              | 98   | 6.3                | 6.5   |
| (8336-C8 x C10) x (8336-C17xC19)        | 2.71               | .93  | 3.64  | 94              | 96   | 6.5                | 6.8   |
| (56-C8 x C21) x (56-C17 x C19)          | 2.78               | .90  | 3.68  | 98              | 100  | 6.3                | 7.2   |
| (736-C8 x C21) x (736-C17 x C19)        | 2.68               | .84  | 3.52  | 94              | 93   | 6.2                | 6.7   |
| (8336-C8 x C21) x<br>(8336-C17 x C19)   | 2.84               | .86  | 3.69  | 96              | 97   | 6.2                | 6.3   |
| (56-C10 x C21) x (56-C17 x C19)         | 2.98               | .97  | 3.95  | 97              | 96   | 6.7                | 7.0   |
| (8336-C10 x C21) x<br>(8336-C17 x C19)  | 2.81               | .92  | 3.73  | 97              | 98   | 7.2                | 6.8   |
| (93336-C10 x C21) x<br>(9336-C17 x C19) | 2.78               | .94  | 3.72  | 99              | 100  | 6.7                | 6.3   |
| Average                                 | 2.70               | .95  | 3.65  | 96              | 98   | 6.5                | 6.7   |
| F for varieties                         | 3.42**8.72**5.06** |      |       |                 |      | 14.15**9.69**      |       |
| LSD P=.05                               | .28                | .11  | .31   |                 |      | .7                 | .7    |
| Coeff. of varieties (percent)           | 9.1                | 10.1 | 7.4   |                 |      | 9.3                | 8.8   |

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Table 10 - 1953 Alfalfa Variety Trial - Ketola - 1955 Data

Seeded May 14, 1953 in 4 replications

Broadcast plots 5 ft x 20 ft.

Management - 3 cuttings per season

| Variety and Source                | Yield - Tons per Acre |      |         |       | Percent alfalfa |             | Vigor           | Color                    |
|-----------------------------------|-----------------------|------|---------|-------|-----------------|-------------|-----------------|--------------------------|
|                                   | 6/10                  | 7/20 | 9/9     | Total | 6/10            | 7/20<br>9/9 | 10=best<br>5/21 | 10=green-<br>est<br>5/21 |
| Atlantic Certified                |                       |      |         |       |                 |             |                 |                          |
| Stanford 1953                     | 2.42                  | .90  | 1.67    | 4.99  | 94              | 100         | 6.3             | 6.5                      |
| Du Puits FC.24648                 | 2.67                  | 1.34 | 1.61    | 5.62  | 100             | "           | 8.0             | 7.0                      |
| Grimm FC.23647                    |                       |      |         |       |                 |             |                 |                          |
| Idaho certified                   | 2.14                  | .92  | 1.50    | 4.56  | 93              | "           | 5.7             | 6.8                      |
| Narragansett Cert.                |                       |      |         |       |                 |             |                 |                          |
| Stanford 1953                     | 2.33                  | .99  | 1.55    | 4.87  | 95              | "           | 6.3             | 8.0                      |
| Ranger Cert.                      |                       |      |         |       |                 |             |                 |                          |
| Stanford 1953                     | 2.12                  | .81  | 1.52    | 4.45  | 94              | "           | 6.2             | 5.3                      |
| Rhizoma FC.24798                  | 2.32                  | 1.02 | 1.54    | 4.88  | 95              | "           | 5.8             | 8.0                      |
| Socheville Rousett<br>& Fils 1953 | 2.61                  | 1.18 | 1.60    | 5.39  | 100             | "           | 7.8             | 7.0                      |
| Vernal - Wis.1953                 | 2.34                  | .83  | 1.62    | 4.79  | 94              | "           | 5.8             | 7.0                      |
| A-224 Utah 1953                   | 2.01                  | .67  | 1.68    | 4.36  | 91              | "           | 4.0             | 6.2                      |
| A-225 Neb 1952 & 1947             | 2.13                  | .85  | 1.53    | 4.51  | 94              | "           | 5.8             | 6.5                      |
| Nomad FC.24687                    | 1.58                  | .47  | 1.46    | 3.51  | 84              | "           | 3.2             | 6.3                      |
| Ontario Variegated<br>1950        | 2.47                  | 1.15 | 1.59    | 5.21  | 96              | "           | 6.7             | 6.5                      |
| Sevelra FC.24660                  | 2.19                  | .83  | 1.56    | 4.58  | 94              | "           | 6.0             | 6.5                      |
| Talent FC.24702                   | 2.14                  | .94  | 1.41    | 4.49  | 94              | "           | 6.8             | 5.3                      |
| Williamsburg FC.24803             | 2.14                  | 1.00 | 1.63    | 4.77  | 96              | "           | 6.5             | 6.0                      |
| Churchville Sel (Riga)            | 2.13                  | 1.04 | 1.59    | 4.76  | 95              | "           | 6.7             | 6.0                      |
| Average                           | 2.23                  | .93  | 1.57    | 4.73  | 94              | 100         | 6.1             | 6.5                      |
| F for Varieties(                  | 12.10**               |      | 3.02**  |       |                 |             | 25.37**         | 11.42** )                |
| (                                 | 11.70**               |      | 13.65** |       |                 |             |                 | )                        |
| LSD P= .05                        | .21                   | .17  | .10     | .36   |                 |             | .7              | .7                       |
| Coef. of Var. %                   | 8.1                   | 15.7 | 6.5     | 6.7   |                 |             | 9.5             | 9.1                      |



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Table 11 - 1953 Alfalfa Variety and Management Yield Trial - Ketola  
1955 dataSeeded May 14, 1953 in 4 replications  
Broadcast plots 5 ft x 20 ft.

Management- 4 cuttings per season

| Variety             | Yield -Tons per Acre          |      |      |      |       | Vigor<br>5/21           | Color<br>10=<br>green<br>5/21 | Percent<br>alfalfa 6/29,<br>5/24 8/3, |      | Percent<br>bloom<br>8/3 |
|---------------------|-------------------------------|------|------|------|-------|-------------------------|-------------------------------|---------------------------------------|------|-------------------------|
|                     | 5/24                          | 6/29 | 8/3  | 10/4 | Total |                         |                               | 5/24                                  | 10/4 |                         |
| Atlantic Certified  |                               |      |      |      |       |                         |                               |                                       |      |                         |
| Stanford 1953       | 1.57                          | .85  | .62  | 1.43 | 4.47  | 6.7                     | 6.0                           | 98                                    | 100  | 27                      |
| Du Puits FC.24648   | 1.89                          | 1.03 | .80  | 1.45 | 5.16  | 8.0                     | 7.3                           | 100                                   | "    | 55                      |
| Grimm FC.23647      |                               |      |      |      |       |                         |                               |                                       |      |                         |
| Idaho Cert.         | 1.52                          | .79  | .60  | 1.36 | 4.27  | 5.7                     | 7.0                           | 97                                    | "    | 35                      |
| Narragansett Cert.  |                               |      |      |      |       |                         |                               |                                       |      |                         |
| Stanford 1953       | 1.89                          | .93  | .68  | 1.46 | 4.96  | 6.7                     | 7.7                           | 99                                    | "    | 34                      |
| Ranger Cert.        |                               |      |      |      |       |                         |                               |                                       |      |                         |
| Stanford 1953       | 1.58                          | .73  | .51  | 1.32 | 4.13  | 6.3                     | 5.3                           | 96                                    | "    | 24                      |
| Rhizoma FC.24798    | 1.62                          | .91  | .60  | 1.35 | 4.48  | 5.8                     | 8.0                           | 96                                    | "    | 48                      |
| Socheville Rousett  |                               |      |      |      |       |                         |                               |                                       |      |                         |
| & Fils              | 1.91                          | .97  | .75  | 1.40 | 5.03  | 8.0                     | 7.0                           | 100                                   | "    | 56                      |
| Vernal- Wis.1953    | 1.72                          | .80  | .54  | 1.39 | 4.45  | 6.5                     | 7.3                           | 99                                    | "    | 23                      |
| A-224 Utah 1953     | 1.31                          | .63  | .38  | 1.35 | 3.66  | 4.3                     | 6.3                           | 94                                    | "    | 26                      |
| A-225 Neb 1952 &    |                               |      |      |      |       |                         |                               |                                       |      |                         |
| 1947                | 1.69                          | .81  | .61  | 1.26 | 4.36  | 5.8                     | 7.5                           | 97                                    | "    | 31                      |
| Nomad FC.24687      | 1.20                          | .50  | .26  | 1.23 | 3.19  | 3.2                     | 5.0                           | 87                                    | "    | 18                      |
| Ontario Variegated  |                               |      |      |      |       |                         |                               |                                       |      |                         |
| 1950                | 1.71                          | .96  | .71  | 1.36 | 4.74  | 6.5                     | 7.2                           | 99                                    | "    | 42                      |
| Sevelra FC.24660    | 1.60                          | .77  | .57  | 1.35 | 4.30  | 5.8                     | 6.3                           | 97                                    | "    | 34                      |
| Talent FC.24702     | 1.56                          | .90  | .71  | 1.25 | 4.42  | 6.7                     | 5.8                           | 97                                    | "    | 48                      |
| Williamsburg        |                               |      |      |      |       |                         |                               |                                       |      |                         |
| FC.24803            | 1.51                          | .78  | .61  | 1.39 | 4.28  | 6.3                     | 6.3                           | 98                                    | "    | 28                      |
| Churchville Sel.    |                               |      |      |      |       |                         |                               |                                       |      |                         |
| (Riga)              | 1.54                          | .78  | .63  | 1.39 | 4.33  | 6.3                     | 5.8                           | 96                                    | "    | 30                      |
| Average             | 1.61                          | .82  | .60  | 1.36 | 4.39  | 6.2                     | 6.6                           | 97                                    | 100  | 35                      |
| F for varieties     | ( 5.02**7.40** 5.31** 25.85** |      |      |      |       | 16.27** 11.94** 12.48** |                               |                                       |      |                         |
| LSD P= .05          | .24                           | .14  | .09  | .08  | .40   | .6                      | .7                            |                                       |      |                         |
| Coeff. of varieties |                               |      |      |      |       |                         |                               |                                       |      |                         |
| Percent             | 13.1                          | 14.8 | 13.6 | 5.3  | 7.8   | 9.1                     | 9.2                           |                                       |      |                         |

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Table 12 - 1953 Alfalfa Variety and Management Yield Trial - Ketola  
Summary 1954-1955

| Variety                             | Management               |      |              |                            |      |              |                           |      |              |
|-------------------------------------|--------------------------|------|--------------|----------------------------|------|--------------|---------------------------|------|--------------|
|                                     | Two cuttings<br>per year |      |              | Three cuttings<br>per year |      |              | Four cuttings<br>per year |      |              |
|                                     | 1954                     | 1955 | Aver-<br>age | 1954                       | 1955 | Aver-<br>age | 1954                      | 1955 | Aver-<br>age |
| Atlantic certified<br>Stanford 1953 | 3.84                     | 3.85 | 3.84         | 4.34                       | 4.99 | 4.66         | 4.24                      | 4.47 | 4.35         |
| Du Puits FC.24648                   | 4.45                     | 4.21 | 4.33         | 5.15                       | 5.62 | 5.38         | 5.05                      | 5.16 | 5.10         |
| Grimm FC.23647                      |                          |      |              |                            |      |              |                           |      |              |
| Idaho certified                     | 3.61                     | 3.71 | 3.66         | 4.08                       | 4.56 | 4.32         | 3.67                      | 4.27 | 3.97         |
| Narragansett cert.<br>Stanford 1953 | 3.88                     | 3.78 | 3.83         | 4.45                       | 4.87 | 4.66         | 4.44                      | 4.96 | 4.70         |
| Ranger certified<br>Stanford 1953   | 3.50                     | 3.54 | 3.52         | 4.01                       | 4.45 | 4.23         | 3.85                      | 4.13 | 3.99         |
| Rhizoma FC.24798                    | 3.98                     | 3.60 | 3.79         | 4.48                       | 4.88 | 4.68         | 3.88                      | 4.48 | 4.18         |
| Socheville Rousett<br>& Fils 1953   | 4.17                     | 4.07 | 4.12         | 5.20                       | 5.39 | 5.29         | 5.30                      | 5.03 | 5.16         |
| Vernal Wis. 1953                    | 3.98                     | 3.82 | 3.90         | 4.47                       | 4.79 | 4.63         | 4.16                      | 4.45 | 4.30         |
| A-224 Utah 1953                     | 3.95                     | 3.65 | 3.80         | 4.20                       | 4.36 | 4.28         | 3.54                      | 3.66 | 3.60         |
| A-225 Neb 1952 & 1947               | 4.16                     | 3.95 | 4.05         | 4.03                       | 4.51 | 4.27         | 3.61                      | 4.36 | 3.98         |
| Nomad FC.24687                      | 3.29                     | 3.28 | 3.28         | 2.72                       | 3.51 | 3.11         | 2.45                      | 3.19 | 2.82         |
| Ontario Variegated<br>1950          | 4.10                     | 4.05 | 4.07         | 4.49                       | 5.21 | 4.85         | 4.43                      | 4.74 | 4.58         |
| Sevelra FC.24660                    | 3.81                     | 3.72 | 3.76         | 4.03                       | 4.58 | 4.30         | 3.84                      | 4.30 | 4.07         |
| Talent FC.24702                     | 3.13                     | 3.29 | 3.21         | 4.06                       | 4.49 | 4.27         | 4.06                      | 4.42 | 4.24         |
| Williamsburg FC.24803               | 3.54                     | 3.85 | 3.69         | 4.47                       | 4.77 | 4.62         | 4.12                      | 4.28 | 4.20         |
| Churchville Sel.(Riga)              | 3.81                     | 3.66 | 3.73         | 4.38                       | 4.76 | 4.57         | 3.90                      | 4.33 | 4.11         |
| Average                             | 3.82                     | 3.75 | 3.78         | 4.28                       | 4.73 | 4.50         | 4.03                      | 4.39 | 4.21         |
| F for varieties                     | 3.75**5.06**             |      |              | 18.87**13.65**             |      |              | 18.08**11.94**            |      |              |
| LSD P= .05                          | .53                      | .31  |              | .36                        | .36  |              | .43                       | .40  |              |

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Table 13 - 1954 Eastern Regional Uniform Alfalfa Variety Test -Canton  
Planted May 18, 1954

| Variety                        | Yield - Tons per Acre |        |        |        | Percent legume |     |      |
|--------------------------------|-----------------------|--------|--------|--------|----------------|-----|------|
|                                | 6/16                  | 8/2    | 9/27   | Total  | 6/16           | 8/2 | 9/27 |
| Sevelra                        | 1.31                  | .55    | .78    | 2.64   | 59             | 64  | 88   |
| Williamsburg                   | 1.78                  | .96    | 1.02   | 3.76   | 76             | 90  | 98   |
| Du Puits                       | 2.09                  | .89    | .89    | 3.87   | 81             | 88  | 97   |
| Vernal                         | 1.70                  | .86    | .89    | 3.45   | 71             | 91  | 97   |
| Nomad                          | 1.09                  | .47    | .70    | 2.26   | 47             | 53  | 72   |
| A-225                          | 1.42                  | .68    | .69    | 2.79   | 65             | 80  | 92   |
| Narragansett                   | 1.99                  | 1.06   | 1.09   | 4.14   | 78             | 89  | 98   |
| Talent                         | 1.04                  | .64    | .78    | 2.46   | 58             | 89  | 94   |
| Buffalo                        | 1.49                  | .91    | 1.01   | 3.41   | 63             | 88  | 98   |
| Atlantic                       | 1.92                  | .89    | .90    | 3.71   | 75             | 87  | 98   |
| Rhizoma                        | 1.79                  | .94    | .91    | 3.64   | 82             | 92  | 98   |
| Grimm                          | 1.86                  | .93    | .85    | 3.64   | 77             | 95  | 97   |
| A-224                          | 1.33                  | .59    | .69    | 2.61   | 62             | 76  | 85   |
| Ranger                         | 1.42                  | .81    | .81    | 3.04   | 63             | 83  | 96   |
| Socheville                     | 2.46                  | 1.34   | 1.15   | 4.95   | 92             | 96  | 100  |
| Average                        | 1.65                  | .83    | .88    | 3.36   | 70             | 84  | 94   |
| F for varieties                | 2.87**                | 2.44** | 3.66** | 3.15** |                |     |      |
| LSD P= .05                     | .66                   | .40    | .21    | 1.16   |                |     |      |
| Coeff. of varieties<br>percent | 31.4                  | 38.2   | 19.0   | 27.2   |                |     |      |

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Table 14 - 1954 Alfalfa Polycross Progeny Test - Canton

Planted May 18, 1954 in 4 replications

Broadcast plots 5 ft x 16 ft. 10 x 10 simple lattice

| Clone identification | Yield - Tons per Acre |      |      |               | Percent alfalfa |      | Color <sup>1/</sup><br>10=dark | Leaf<br>spot <sup>1/</sup><br>10=most |
|----------------------|-----------------------|------|------|---------------|-----------------|------|--------------------------------|---------------------------------------|
|                      | 6/16                  | 8/2  | 9/27 | Adj.<br>Total | 8/2             | 9/27 | 8/2                            | 8/2                                   |
| 27E-C2               | 2.30                  | 1.47 | 1.19 | 4.17          | 95              | 100  | 7                              | 2                                     |
| -C3                  | 1.89                  | 1.10 | 1.08 | 3.63          | 96              | "    | 5                              | 2                                     |
| -C5                  | 1.56                  | .81  | .86  | 3.00          | 86              | "    | 5                              | 3                                     |
| -C10                 | 1.68                  | 1.39 | 1.18 | 3.93          | 98              | "    | 5                              | 3                                     |
| -C11                 | 1.44                  | .72  | .83  | 2.41          | 85              | 99   | 4                              | 2                                     |
| -C12                 | 2.00                  | 1.29 | 1.13 | 3.73          | 96              | 100  | 3                              | 4                                     |
| -C13                 | 1.89                  | 1.34 | 1.06 | 3.66          | 98              | 99   | 7                              | 3                                     |
| -C14                 | 1.64                  | 1.20 | 1.04 | 3.54          | 89              | 100  | 6                              | 3                                     |
| -C27                 | 1.84                  | 1.16 | 1.08 | 3.25          | 92              | "    | 4                              | 4                                     |
| -C32                 | 1.97                  | .99  | 1.10 | 3.32          | 94              | "    | 3                              | 5                                     |
| -C35                 | 1.86                  | 1.18 | 1.09 | 3.76          | 89              | "    | 7                              | 3                                     |
| -C36                 | 1.69                  | .94  | .98  | 3.58          | 92              | "    | 5                              | 3                                     |
| -C42                 | 1.52                  | .84  | .90  | 3.46          | 82              | "    | 6                              | 2                                     |
| -C44                 | 1.50                  | 1.18 | 1.08 | 3.87          | 92              | "    | 6                              | 1                                     |
| -C46                 | 1.95                  | 1.15 | 1.06 | 4.00          | 90              | "    | 6                              | 4                                     |
| -C51                 | 1.65                  | 1.14 | 1.08 | 3.59          | 90              | "    | 6                              | 3                                     |
| -C53                 | 1.47                  | .69  | .83  | 2.78          | 81              | "    | 5                              | 4                                     |
| -C54                 | 1.69                  | 1.14 | 1.07 | 3.98          | 89              | "    | 6                              | 6                                     |
| -C57                 | 1.80                  | 1.02 | .92  | 3.32          | 88              | "    | 3                              | 3                                     |
| -C63                 | 2.11                  | 1.12 | 1.15 | 4.05          | 85              | "    | 6                              | 2                                     |
| -C79                 | 1.38                  | .91  | .92  | 3.10          | 91              | "    | 6                              | 5                                     |
| -C87                 | 1.42                  | .80  | .88  | 3.33          | 90              | "    | 4                              | 3                                     |
| -C91                 | 1.40                  | 1.10 | .97  | 3.94          | 89              | 98   | 7                              | 6                                     |
| -C112                | 1.06                  | 1.02 | .95  | 3.40          | 88              | 100  | 7                              | 3                                     |
| -C125                | 1.16                  | .80  | .82  | 2.88          | 90              | 99   | 5                              | 3                                     |
| -C130                | 1.62                  | 1.12 | .90  | 3.64          | 91              | 96   | 5                              | 3                                     |
| -C138                | 1.49                  | 1.05 | .98  | 3.57          | 98              | 99   | 6                              | 2                                     |
| -C144                | 1.22                  | .88  | .88  | 3.33          | 92              | 96   | 5                              | 2                                     |
| -C170                | 1.22                  | .87  | .87  | 2.82          | 90              | 100  | 5                              | 1                                     |
| -C172                | 1.34                  | .91  | .84  | 3.03          | 92              | 100  | 6                              | 2                                     |
| -C174                | 1.44                  | 1.04 | 1.00 | 3.12          | 88              | 100  | 6                              | 1                                     |
| -C175                | 1.56                  | .92  | .93  | 3.40          | 91              | 99   | 5                              | 1                                     |
| -C176                | 1.45                  | .96  | .95  | 3.57          | 89              | 99   | 7                              | 2                                     |
| -C180                | 1.25                  | .99  | .82  | 3.17          | 81              | 96   | 4                              | 2                                     |
| -C181                | 1.60                  | 1.00 | 1.07 | 3.52          | 90              | 100  | 5                              | 5                                     |
| -C183                | 1.65                  | 1.26 | 1.10 | 3.75          | 95              | 100  | 6                              | 3                                     |

(Continued) <sup>1/</sup> Notes on one replication only.



Table 14 - 1954 Polycross Progeny Test - Continued

| Clone identification | Yield - Tons per acre |      |      |              | Percent alfalfa |      | Color <sup>1/</sup><br>10=dark | Leaf spot <sup>1/</sup><br>10=most |
|----------------------|-----------------------|------|------|--------------|-----------------|------|--------------------------------|------------------------------------|
|                      | 6/16                  | 8/2  | 9/27 | Adj<br>Total | 8/2             | 9/27 | 8/2                            | 8/2                                |
| 27E-C184             | 1.47                  | .84  | .98  | 3.08         | 91              | 99   | 3                              | 3                                  |
| -C186                | 1.24                  | .83  | .86  | 3.02         | 81              | 98   | 6                              | 2                                  |
| -C187                | 1.96                  | 1.14 | 1.20 | 3.91         | 96              | 100  | 5                              | 3                                  |
| -C188                | 1.51                  | .91  | .89  | 3.00         | 85              | 99   | 4                              | 2                                  |
| -C190                | 1.93                  | 1.00 | .90  | 4.10         | 85              | 99   | 3                              | 3                                  |
| -C191                | 1.66                  | .82  | .90  | 3.98         | 86              | 98   | 5                              | 4                                  |
| -C195                | 1.29                  | .68  | .86  | 3.67         | 82              | 100  | 5                              | 4                                  |
| -C196                | 1.36                  | .99  | .94  | 4.03         | 85              | 100  | 5                              | 2                                  |
| -C197                | 1.51                  | .82  | .94  | 3.74         | 86              | 99   | 6                              | 2                                  |
| -C199                | 1.43                  | .85  | .88  | 3.52         | 82              | 98   | 4                              | 1                                  |
| -C221                | 1.60                  | .97  | 1.04 | 4.04         | 88              | 99   | 5                              | 3                                  |
| -C223                | 1.32                  | .99  | 1.04 | 4.04         | 86              | 100  | 4                              | 3                                  |
| -                    |                       |      |      |              |                 |      |                                |                                    |
| -C247                | 1.67                  | .89  | .93  | 3.72         | 84              | 99   | 3                              | 3                                  |
| NY 49-5              | 1.40                  | .91  | .94  | 3.56         | 82              | 100  | 5                              | 3                                  |
| 49-6                 | 1.83                  | .97  | 1.00 | 3.90         | 89              | 99   | 4                              | 3                                  |
| 49-7                 | 1.40                  | .69  | .80  | 3.32         | 89              | 100  | 5                              | 1                                  |
| 49-8                 | 1.69                  | .89  | 1.01 | 4.26         | 94              | "    | 4                              | 1                                  |
| 49-9                 | 1.52                  | 1.13 | 1.09 | 4.30         | 95              | "    | 4                              | 2                                  |
| 49-10                | 1.78                  | .98  | .95  | 4.01         | 91              | "    | 4                              | 1                                  |
| 49-13                | 1.53                  | 1.10 | 1.00 | 3.81         | 96              | "    | 5                              | 2                                  |
| 49-14                | 1.80                  | 1.18 | 1.10 | 4.32         | 99              | "    | 4                              | 1                                  |
| 49-15                | 1.18                  | .93  | .92  | 3.58         | 88              | "    | 3                              | 1                                  |
| 49-18                | 1.79                  | 1.07 | 1.08 | 3.98         | 96              | "    | 3                              | 1                                  |
| 49-19                | 1.74                  | .92  | 1.04 | 3.84         | 92              | "    | 5                              | 1                                  |
| 49-20                | 1.89                  | 1.08 | 1.22 | 3.98         | 95              | "    | 4                              | 2                                  |
| 49-21                | 1.54                  | .77  | .90  | 3.34         | 89              | "    | 5                              | 3                                  |
| 49-22                | 1.44                  | .89  | 1.12 | 3.81         | 90              | "    | 5                              | 3                                  |
| 49-23                | 1.47                  | 1.04 | 1.06 | 3.83         | 91              | "    | 5                              | 4                                  |
| 49-26                | 1.27                  | .94  | 1.06 | 3.27         | 89              | 99   | 7                              | 2                                  |
| 49-27                | 1.70                  | 1.02 | .96  | 3.58         | 90              | 100  | 5                              | 3                                  |
| 49-28                | 1.45                  | .90  | .92  | 3.22         | 90              | 99   | 5                              | 2                                  |
| 49-29                | 1.24                  | .87  | 1.04 | 3.39         | 85              | 99   | 4                              | 4                                  |
| 49-31                | 1.99                  | 1.18 | 1.08 | 4.00         | 91              | 99   | 5                              | 4                                  |
| 49-32                | 1.60                  | .81  | .89  | 3.14         | 86              | 99   | 6                              | 1                                  |
| 49-33                | 1.78                  | 1.04 | .97  | 2.99         | 92              | 100  | 5                              | 4                                  |
| 49-34                | 1.78                  | 1.30 | 1.13 | 3.75         | 99              | 100  | 6                              | 4                                  |
| 49-35                | 1.87                  | 1.16 | .96  | 3.76         | 91              | 100  | 5                              | 3                                  |
| 49-37                | 1.87                  | 1.35 | 1.05 | 3.94         | 92              | 99   | 7                              | 3                                  |
| 49-38                | 1.97                  | 1.30 | .78  | 3.46         | 95              | 100  | 8                              | 2                                  |
| 49-39                | 1.67                  | 1.26 | 1.05 | 3.28         | 95              | 100  | 7                              | 1                                  |

(Continued) <sup>1/</sup> Notes on one replication only.

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Table 14 - 1954 Alfalfa Polycross Progeny Test -Canton

| Clone identification      | Yield - Tons per acre |      |      |       | Percent |      | Color <sup>1/</sup> | Leaf spot <sup>1/</sup> |
|---------------------------|-----------------------|------|------|-------|---------|------|---------------------|-------------------------|
|                           | 6/16                  | 8/2  | 9/27 | Adj.  | alfalfa |      | 10=dark             | 10=most                 |
|                           |                       |      |      | Total | 8/2     | 9/27 | 8/2                 | 8/2                     |
| NY 49-40                  | 2.37                  | 1.66 | 1.32 | 4.70  | 100     | 99   | 6                   | 3                       |
| 49-41                     | 1.69                  | 1.30 | .94  | 3.57  | 92      | 100  | 7                   | 4                       |
| 49-42                     | 2.20                  | 1.40 | 1.29 | 4.04  | 96      | "    | 8                   | 3                       |
| 49-44                     | 2.13                  | 1.40 | 1.08 | 3.86  | 89      | "    | 5                   | 2                       |
| 49-45                     | 1.86                  | 1.13 | 1.00 | 3.80  | 91      | 99   | 5                   | 4                       |
| 49-46                     | 1.26                  | .84  | .92  | 3.16  | 94      | 100  | 5                   | 5                       |
| 49-47                     | 1.50                  | .89  | .90  | 3.64  | 90      | 100  | 8                   | 2                       |
| 49-48                     | 1.10                  | .98  | .84  | 3.18  | 86      | 98   | 7                   | 2                       |
| 49-50                     | 1.88                  | 1.20 | 1.16 | 4.24  | 95      | 100  | 6                   | 4                       |
| 49-55                     | 1.66                  | 1.24 | 1.15 | 3.94  | 98      | 100  | 7                   | 5                       |
| 49-57                     | 2.02                  | 1.48 | 1.22 | 4.68  | 99      | 100  | 7                   | 2                       |
| 49-58                     | .84                   | .82  | .80  | 2.71  | 90      | 96   | 5                   | 3                       |
| 49-60                     | 1.81                  | 1.41 | 1.06 | 4.02  | 98      | 100  | 7                   | 1                       |
| 49-61                     | 1.30                  | .99  | .92  | 3.06  | 86      | 98   | 7                   | 5                       |
| 49-64                     | 1.64                  | .94  | .97  | 3.72  | 78      | 100  | 7                   | 2                       |
| 49-65                     | 1.46                  | .71  | .84  | 3.53  | 86      | 100  | 5                   | 3                       |
| 49-67                     | 1.18                  | .83  | .88  | 3.63  | 84      | 99   | 5                   | 3                       |
| 49-68                     | 1.08                  | .68  | .78  | 3.19  | 85      | 100  | 4                   | 6                       |
| 49-69                     | 1.70                  | .94  | 1.04 | 4.07  | 84      | 100  | 3                   | 2                       |
| 49-72                     | 1.38                  | .90  | .94  | 3.50  | 85      | 99   | 6                   | 1                       |
| 49-75                     | 1.48                  | .77  | .87  | 3.45  | 78      | 95   | 5                   | 4                       |
| 5 - 7 N J                 | .96                   | .68  | .77  | 3.04  | 81      | 99   | 6                   | 2                       |
| 5-- 2 N J                 | 1.59                  | 1.02 | 1.05 | 3.79  | 88      | 100  | 5                   | 4                       |
| Ranger                    | 1.43                  | 1.10 | .90  | 3.66  | 88      | 100  | 3                   | 2                       |
| Average                   | 1.59                  | 1.02 | .99  | 3.60  | 90      | 99   |                     |                         |
| F-varieties<br>(Rand.Blk) | 1.20                  | 1.08 | 1.10 | 1.07  |         |      |                     |                         |
| LSD P=.05                 | .74                   | .55  | .31  | 1.50  |         |      |                     |                         |
| Coeff.of<br>varieties     | 33.5                  | 38.4 | 22.7 | 29.9  |         |      |                     |                         |
| Lattice P=.05 LSD =       |                       |      |      | .98   |         |      |                     |                         |

<sup>1/</sup> Notes on one replication only

Table 15 - Summary - Alfalfa variety trials - 1948-1955  
Other trials planted 1947-1950 summarized in previous reports

| Location             | Seeded | Harvested | Atlantic | Buffalo | Grimm | Common | Rhizoma | ganset | Narra | Ont. | Varieg. | Ranger | DuPuits |
|----------------------|--------|-----------|----------|---------|-------|--------|---------|--------|-------|------|---------|--------|---------|
| Ithaca - Lankin      | Alone  | 1948      | 4.14     | 4.18    | 3.93  | 3.76   | 4.32    | 4.32   | 3.76  | 4.20 | 3.76    | 4.20   | 3.76    |
| Ithaca - McGowan     | Alone  | 1951      | 3.38     | 3.38    | 3.12  | 3.49   | 3.58    | 3.58   | 3.34  | 3.09 | 3.34    | 3.09   | 3.34    |
| Ithaca - Ogden       | Alone  | 1951      | 3.36     | 3.36    | 3.18  | 3.22   | 3.52    | 3.52   | 3.27  | 3.18 | 3.27    | 3.18   | 3.27    |
| Ithaca - Caldwell II | Alone  | 1951      | 4.40     | 4.12    | 3.94  | 4.21   | 4.33    | 4.16   | 4.36  | 4.36 | 4.36    | 4.36   | 4.36    |
| Ithaca - Caldwell IV | Alone  | 1951      | 3.76     | 4.06    | 3.94  | 4.21   | 4.33    | 4.16   | 4.36  | 4.36 | 4.36    | 4.36   | 4.36    |
| Ithaca - Caldwell IV | Alone  | 1951      | 5.35     | 5.43    | 4.92  | 5.58   | 4.58    | 5.30   | 5.26  | 5.16 | 5.26    | 5.16   | 5.26    |
| Canton               | Alone  | 1952      | 4.49     | 4.43    | 4.36  | 4.42   | 4.53    | 4.74   | 4.51  | 4.43 | 4.65    | 4.43   | 4.51    |
| Ithaca-Ketola(2 cut) | Alone  | 1953      | 3.84     | 3.66    | 3.66  | 3.79   | 3.83    | 3.90   | 4.07  | 3.52 | 4.07    | 3.52   | 4.33    |
| Ithaca-Ketola(3 cut) | Alone  | 1953      | 4.66     | 4.32    | 4.32  | 4.68   | 4.66    | 4.63   | 4.85  | 4.23 | 4.85    | 4.23   | 5.38    |
| Ithaca-Ketola(4 cut) | Alone  | 1953      | 4.35     | 3.97    | 3.97  | 4.18   | 4.70    | 4.30   | 4.58  | 3.99 | 4.58    | 3.99   | 5.10    |
| Canton               | Alone  | 1954      | 3.71     | 3.41    | 3.64  | 3.64   | 4.14    | 3.45   | 3.04  | 3.04 | 3.04    | 3.04   | 3.87    |
| Wyoming Co.          | Alone  | 1949      | 3.19     | 3.19    | 3.19  | 3.19   | 3.52    | 3.52   | 2.82  | 2.90 | 2.82    | 2.90   | 3.87    |
| Tompkins Co.         | Grass  | 1950      | 4.76     | 4.76    | 4.74  | 4.76   | 4.98    | 4.98   | 4.50  | 4.50 | 4.50    | 4.50   | 4.50    |
| Madison Co           | Grass  | 1950      | 4.93     | 4.93    | 4.72  | 4.93   | 5.01    | 5.01   | 4.92  | 4.92 | 4.92    | 4.92   | 4.92    |
| Oswego Co            | Grass  | 1953      | 3.45     | 3.45    | 3.45  | 3.45   | 3.66    | 3.88   | 3.63  | 3.63 | 3.63    | 3.63   | 3.85    |
| Otsego Co            | Grass  | 1953      | 2.90     | 2.90    | 2.90  | 2.90   | 3.44    | 3.08   | 2.89  | 2.89 | 2.89    | 2.89   | 3.27    |
| Tompkins Co          | Grass  | 1953      | 4.54     | 4.54    | 4.54  | 4.54   | 4.49    | 4.38   | 4.23  | 4.23 | 4.23    | 4.23   | 4.52    |
| Chenango Co          | Grass  | 1953      | 2.29     | 2.29    | 2.29  | 2.29   | 2.58    | 2.50   | 2.02  | 2.02 | 2.02    | 2.02   | 2.81    |
| Steuben Co           | Grass  | 1953      | 1.74     | 1.74    | 1.74  | 1.74   | 2.16    | 2.24   | 2.29  | 2.29 | 2.29    | 2.29   | 2.58    |
| Cayuga Co            | Grass  | 1954      | 1.82     | 1.82    | 1.82  | 1.82   | 1.82    | 2.02   | 1.76  | 1.76 | 1.76    | 1.76   | 2.12    |
| Tompkins Co          | Grass  | 1954      | 2.27     | 2.27    | 2.27  | 2.27   | 2.27    | 2.22   | 1.87  | 1.87 | 1.87    | 1.87   | 2.56    |

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Table 16 - Summary Alfalfa Variety Trials 1948-1955

| :Average yield for<br>:1st hay year |                     | :Average yields for<br>: 2 yrs of production |                     | :Average yields for<br>: 3 yrs of production |                     | :Average yields for<br>:4 yrs of production |                     | :Av.Yields for<br>:5 yrs of<br>:production |                     |                     |                     |                     |                     |                     |                     |                     |                     |                     |
|-------------------------------------|---------------------|----------------------------------------------|---------------------|----------------------------------------------|---------------------|---------------------------------------------|---------------------|--------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| No.of<br>Tests                      | 25                  | 19                                           | 15                  | 13                                           | 22                  | 18                                          | 12                  | 10                                         | 14                  | 10                  | 4                   | 2                   | 11                  | 7                   | 3                   | 1                   | 5                   | 3                   |
| Narragansett                        | 3.55                | 3.78                                         | 3.53                | 3.46                                         | 4.04                | 4.05                                        | 4.07                | 4.00                                       | 4.36                | 4.40                | 4.63                | 5.14                | 4.25                | 4.37                | 4.33                | 5.10                | 4.55                | 4.96                |
| Ranger                              | 3.08                | 3.36                                         | 3.20                | 3.11                                         | 3.61                | 3.67                                        | 3.77                | 3.68                                       | 3.92                | 3.97                | 4.42                | 4.90                | 3.99                | 4.05                | 4.27                | 5.16                | 4.25                | 4.64                |
| Grimm                               | -                   | 3.38                                         | -                   | -                                            | -                   | 3.73                                        | -                   | -                                          | -                   | 4.08                | -                   | 4.81                | -                   | 4.05                | -                   | 4.92                | -                   | 4.68                |
| Vernal                              | -                   | -                                            | 3.49                | 3.36                                         | -                   | -                                           | 4.00                | 3.92                                       | -                   | -                   | 4.49                | 4.97                | -                   | -                   | 4.35                | 5.30                | -                   | -                   |
| Du Puits                            | -                   | -                                            | -                   | 3.81                                         | -                   | -                                           | -                   | 4.35                                       | -                   | -                   | -                   | 5.65                | -                   | -                   | -                   | 5.76                | -                   | -                   |
| Rhizoma                             | -                   | -                                            | -                   | -                                            | -                   | -                                           | -                   | -                                          | -                   | -                   | -                   | 4.80                | -                   | -                   | -                   | -                   | -                   | -                   |
| Narr. over Ranger                   | 24 out of 25 trials | 21 out of 22 trials                          | 14 out of 14 trials | 14 out of 14 trials                          | 14 out of 14 trials | 14 out of 14 trials                         | 14 out of 14 trials | 14 out of 14 trials                        | 14 out of 14 trials | 14 out of 14 trials | 14 out of 14 trials | 14 out of 14 trials | 14 out of 14 trials | 14 out of 14 trials | 14 out of 14 trials | 14 out of 14 trials | 14 out of 14 trials | 14 out of 14 trials |
| Vernal over "                       | 13 out of 15 "      | 10 out of 11 trials                          | 3 out of 4 trials   | 3 out of 4 trials                            | 3 out of 4 trials   | 3 out of 4 trials                           | 3 out of 4 trials   | 3 out of 4 trials                          | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   |
| Narr. over Vernal                   | 8 out of 15 "       | 8 out of 12 trials                           | 3 out of 4 trials   | 3 out of 4 trials                            | 3 out of 4 trials   | 3 out of 4 trials                           | 3 out of 4 trials   | 3 out of 4 trials                          | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   | 3 out of 4 trials   |
| Du Puits over Narr.                 | 10 out of 13 "      | 9 out of 10 trials                           | 2 out of 2 trials   | 2 out of 2 trials                            | 2 out of 2 trials   | 2 out of 2 trials                           | 2 out of 2 trials   | 2 out of 2 trials                          | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   |
| Du Puits over Vernal                | 12 out of 13 "      | 9 out of 10 trials                           | 2 out of 2 trials   | 2 out of 2 trials                            | 2 out of 2 trials   | 2 out of 2 trials                           | 2 out of 2 trials   | 2 out of 2 trials                          | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   | 2 out of 2 trials   |



NORTH CAROLINA

1955 was an unusual year due to the spring freeze (low of 20° F. at Raleigh, North Carolina on March 27). Growth on varieties such as Atlantic and Williamsburg was about 12 inches high on this date, being considerably more advanced than would be expected in an average season. The more winter hardy varieties such as Vernal, Rhizoma and A-224 suffered very little frost damage (Table 1 and 2), consequently yielded well and relatively higher than was expected for an average season in this region. Caliverde and Talent suffered the greatest damage; about 80% of the plants of these varieties did not recover at Laurel Springs (Upper Mountain Station). Incidentally, in another planting (not shown in attached tables) California 49 appeared somewhat less hardy than Caliverde, suggesting that certain genes for winter hardiness were carried along with genes for wilt resistance during the backcross breeding of Caliverde. All varieties, with the possible exception of Vernal, Rhizoma and A-224, showed symptoms of damage from the freeze (slower recovery and less growth) during most of the remainder of the season. At Laurel Springs, Du Puits and Socheville, however, showed surprisingly good recovery, competing well with summer weedy grasses and completed the season with reasonably good and better stands than most varieties. This was of interest since these two varieties had more growth killed back at the time of the freeze than such varieties as Atlantic, Williamsburg, Narragansett, and Ranger.

An outbreak of Stemphylium leaf spot at Laurel Springs (Table 2) resulted in a moderate to heavy infection. All varieties appeared moderately susceptible with Du Puits and Socheville possible being a little less susceptible. It is recalled that the principle concern with these two varieties is that they appear to be susceptible to stand depletion from Colletotrichum during hot, wet seasons.

Table 4 contains observational data on introduced lots. Some of the introductions from France and Italy have appeared quite promising. The latter were a bit less winter hardy than the former. The lots from Peru winterkilled in the first year (1953-54).

The varieties presently recommended for North Carolina are certified Atlantic, Williamsburg, and Buffalo, and Oklahoma Common of approved origin. Narragansett appears promising in the mountain areas, although it is not recommended as yet.

C. H. Hanson, D. S. Chamblee, J. L. Allison.

NORTH CRO LINA

Table 1 - Alfalfa Strain Test A-27,- Starnes

Seeded September 3, 1953. Randomized blocks, 4 replications  
Broadcast plots 4-3/4 ft x 20 ft. Scores 1 to 10, 1=best

[illegible]

## NORTH CAROLINA

Table 2 - Alfalfa Strain Test F325 (A-32) - Laurel Springs

Seeded August 6, 1954. 4 replications. Plots 5 x 20 feet  
 Scores from 1 to 10, 1=most for vigor and most resistant  
 in the case of diseases

| Entry             | F.C.<br>number | Vigor |      | Recovery<br>after<br>cut<br>6/10 | Cold<br>injury<br>percent<br>plants<br>killed<br>4/20 | Per-<br>cent<br>stand<br>10/4 | Leaf<br>spot<br>9/8 | Stemphy-<br>llium<br>leaf<br>spot<br>10/4 |
|-------------------|----------------|-------|------|----------------------------------|-------------------------------------------------------|-------------------------------|---------------------|-------------------------------------------|
|                   |                | 4/29  | 10/4 |                                  |                                                       |                               |                     |                                           |
| Oklahoma          |                |       |      |                                  |                                                       |                               |                     |                                           |
| Common            | 23661          | 5.3   | 6.0  | 4.5                              | 12.5                                                  | 55                            | 5.0                 | 5.0                                       |
| Buffalo           | 24864          | 4.3   | 4.8  | 4.5                              | 6.7                                                   | 61                            | 4.8                 | 4.3                                       |
| Williamsburg      | 24805          | 5.0   | 4.5  | 4.8                              | 10.0                                                  | 64                            | 5.0                 | 4.3                                       |
| Ranger            | 24802          | 4.5   | 7.8  | 4.5                              | 12.5                                                  | 44                            | 5.3                 | 5.5                                       |
| Atlantic          | 24804          | 3.3   | 5.8  | 4.0                              | 5.0                                                   | 63                            | 4.8                 | 4.8                                       |
| Narragansett      | 24645          | 2.0   | 4.8  | 4.8                              | -                                                     | 81                            | 4.8                 | 4.3                                       |
| Grimm             | 32124          | 1.8   | 6.0  | 4.3                              | 5.0                                                   | 66                            | 5.0                 | 5.0                                       |
| Vernal            | 31983          | 1.3   | 7.3  | 5.3                              | -                                                     | 63                            | 5.0                 | 4.8                                       |
| Caliverde         | 32158          | 9.3   | 8.5  | 10.0                             | 93.0                                                  | 21                            | 5.0                 | 5.0                                       |
| Socheville PI.205 | 5,889          | 2.0   | 1.8  | 1.8                              | 4.0                                                   | 85                            | 4.3                 | 3.0                                       |
| Talent            | 32139          | 8.8   | 6.8  | 9.5                              | 82.0                                                  | 33                            | 5.0                 | 5.3                                       |
| Du Puits          | 24648          | 1.8   | 2.3  | 2.0                              | 5.0                                                   | 83                            | 3.5                 | 2.8                                       |
| A-224             | 24887          | 4.0   | 9.0  | 5.8                              | -                                                     | 20                            | 5.0                 | 5.5                                       |
| Nomad             | 32085          | 6.0   | 9.5  | 7.5                              | 7.5                                                   | 14                            | 5.0                 | 5.8                                       |
| Sevelra           | 24660          | 2.5   | 5.8  | 4.3                              | -                                                     | 66                            | 5.3                 | 5.3                                       |
| Rhizoma           | 24798          | 1.3   | 5.5  | 4.5                              | -                                                     | 84                            | 4.8                 | 4.5                                       |

## NORTH CAROLINA

Table 3 - Alfalfa Strain Test Fl49 - Waynesville

Elevation about 2500 feet

Seeded September 11, 1953

Randomized blocks

2 replications.

Plots 5 ft x 25 ft.

| Entry           | Yield - Tons per Acre |        |        |        | Total<br>for<br>1955 |
|-----------------|-----------------------|--------|--------|--------|----------------------|
|                 | 8/6/54                | 6/1/55 | 7/8/55 | 8/8/55 |                      |
| Oklahoma Common | .28                   | .80    | .56    | .61    | 1.97                 |
| Buffalo         | .54                   | .73    | .54    | .62    | 1.89                 |
| Williamsburg    | .61                   | .83    | .51    | .65    | 1.99                 |
| Ranger          | .52                   | .75    | .50    | .59    | 1.84                 |
| Atlantic        | .57                   | .76    | .52    | .60    | 1.88                 |
| Narragansett    | .60                   | .83    | .57    | .46    | 1.86                 |
| Grimm           | .28                   | .80    | .54    | .63    | 1.97                 |
| Vernal          | .56                   | .87    | .59    | .60    | 2.06                 |
| Caliverde       | .43                   | .62    | .44    | .57    | 1.63                 |
| Socheville      | .63                   | .72    | .58    | .56    | 1.86                 |
| Talent          | .65                   | .58    | .51    | .61    | 1.70                 |
| Du Puits        | .64                   | .76    | .61    | .65    | 2.02                 |
| A-224           | .53                   | .93    | .52    | .55    | 2.00                 |
| Nomad           | .39                   | .74    | .36    | .49    | 1.59                 |
| Sevelra         | .55                   | .82    | .52    | .62    | 1.96                 |
| Rhizoma         | .56                   | .80    | .58    | .59    | 1.97                 |
| L.S.D.          | .05                   | .09    |        |        | .20                  |
|                 | .01                   | .12    |        |        | .27                  |
| C.V.            |                       | 7%     |        |        | 5%                   |



## NORTH CAROLINA

Table 4 - Alfalfa Observational Test A-28

Seeded September 4, 1953      2 replications  
 Two row drilled plots 16 ft long, 1 ft apart  
 Randomized block.              Scores 1-10, 1=best

| Entry                       | Vigor |      |      |      | Recovery<br>after<br>cut 7/28 | Cold injury |      |
|-----------------------------|-------|------|------|------|-------------------------------|-------------|------|
|                             | 3/4   | 6/6  | 7/19 | 9/21 |                               | 3/4         | 4/7  |
| FC.24561 Peru               | 6.0   | 10.0 | 9.0  | 9.0  | 7.0                           | 9.0         | 10.0 |
| PI.205,329 Peru             | 6.5   | 9.5  | 9.0  | 8.5  | -                             | 9.0         | 10.0 |
| PI.205,888 France           | 2.5   | 2.5  | 4.0  | 4.0  | 4.0                           | 3.0         | 4.5  |
| PI.205,889 France           | 2.5   | 2.0  | 3.0  | 2.5  | 3.5                           | 3.0         | 4.0  |
| FC.24855 Italy              | 2.0   | 3.5  | 6.0  | 3.5  | 3.0                           | 3.5         | 7.0  |
| PI.205,890 France           | 2.0   | 2.0  | 2.0  | 2.5  | 3.0                           | 3.0         | 4.5  |
| PI.205,891 France           | 2.5   | 3.0  | 5.0  | 3.5  | 4.0                           | 2.5         | 4.0  |
| FC.24863 Italy              | 1.5   | 5.0  | 5.0  | 2.5  | 1.5                           | 3.5         | 6.0  |
| PI.206,100 France           | 2.0   | 3.0  | 4.0  | 2.5  | 4.0                           | 2.5         | 4.0  |
| FC.24856 Italy              | 2.0   | 4.5  | 5.0  | 2.5  | 2.0                           | 3.5         | 6.5  |
| PI.206,101 France           | 5.0   | 5.5  | 6.0  | 5.0  | 4.0                           | 2.0         | 4.0  |
| PI.206,102 France           | 3.5   | 6.0  | 6.0  | 5.5  | 5.0                           | 2.5         | 4.0  |
| PI.206,103 France           | 3.0   | 3.0  | 4.0  | 3.0  | 3.0                           | 2.5         | 4.5  |
| FC.24857 Italy              | 2.0   | 4.5  | 5.0  | 3.5  | 3.5                           | 3.0         | 6.0  |
| PI.206,104 France           | 3.5   | 4.0  | 6.0  | 4.0  | 4.5                           | 2.5         | 4.5  |
| PI.206,105 France           | 3.5   | 3.5  | 6.0  | 4.0  | 4.0                           | 3.0         | 4.0  |
| FC.24858 Italy              | 1.5   | 4.5  | 5.0  | 3.5  | 3.0                           | 4.0         | 6.0  |
| PI.206,106 France           | 3.0   | 2.5  | 5.0  | 3.5  | 4.0                           | 3.0         | 4.0  |
| FC.24862 Italy              | 1.0   | 3.5  | 5.0  | 2.0  | 3.5                           | 3.5         | 6.5  |
| PI.206,107 France           | 2.5   | 2.5  | 3.0  | 3.0  | 3.5                           | 3.0         | 4.0  |
| PI.206,109 France           | 2.5   | 3.5  | 3.0  | 3.0  | 3.5                           | 3.0         | 5.5  |
| PI.206,110 France           | 4.0   | 3.0  | 4.0  | 3.5  | 4.5                           | 3.5         | 3.0  |
| FC.24859 Italy              | 1.5   | 4.5  | 4.0  | 2.0  | 3.5                           | 4.0         | 7.0  |
| PI.206,111 France           | 3.0   | 3.0  | 4.0  | 2.5  | 4.5                           | 3.5         | 4.0  |
| PI.206,112 France           | 3.0   | 2.5  | 2.0  | 3.0  | 3.5                           | 3.0         | 4.5  |
| PI.206,113 France           | 2.0   | 4.5  | 5.0  | 2.5  | 3.0                           | 4.0         | 6.0  |
| PI.207,775 England          | 2.0   | 2.5  | 4.0  | 3.5  | 4.0                           | 3.0         | 4.5  |
| PI.208,115 Afghan-<br>istan | 4.5   | 4.5  | 7.0  | 4.0  | 4.0                           | 2.0         | 5.0  |
| FC.24860 Italy              | 2.0   | 3.0  | 5.0  | 2.0  | 3.0                           | 3.0         | 6.0  |
| FC.24861 Italy              | 1.0   | 3.5  | 3.0  | 2.0  | 2.0                           | 4.0         | 6.5  |
| FC.24790 Vernal             | 5.0   | 3.5  | 4.5  | 4.5  | 5.5                           | 1.0         | 2.0  |
| FC.24072 KansasCom          | 3.0   | 3.0  | 4.0  | 2.5  | 5.0                           | 2.5         | 2.5  |
| FC.24804 Atlantic           | 3.5   | 4.5  | 3.0  | 4.0  | 5.0                           | 2.5         | 3.0  |
| FC.24803 Williams-<br>burg  | 3.5   | 4.0  | 3.0  | 3.0  | 5.0                           | 2.5         | 4.0  |
| FC.24864 Buffalo            | 3.5   | 5.5  | 6.0  | 3.0  | 5.0                           | 2.5         | 3.5  |
| FC.24900 Caliverde          | 3.5   | 5.5  | 6.0  | 2.5  | 6.5                           | 4.5         | 5.5  |
| Arizona Chilean             | 3.0   | 6.0  | 7.0  | 3.5  | 6.5                           | 5.0         | 7.0  |
| FC.24697 Du Puits           | 1.5   | 2.5  | 3.0  | 2.0  | 4.5                           | 3.5         | 5.0  |

## PENNSYLVANIA

Summaries of 1955 Field Trial Data obtained by the Agronomy Department - The Pennsylvania State University, University Park

Locations of tests indicated on Summaries (See Page 126, 1949 Report for more complete information on sites)

Project Leaders: H. R. Fortman and R. W. Cleveland  
Graduate Assistants: J. L. Starling and R. H. Cole

Table 1 - Complete Advanced Alfalfa Uniform Nursery  
State College, Central Pennsylvania

1955 Data - Plots 5 x 16 ft. Seeding rate 45 viable  
seeds per square foot, 7 x 7 simple lattice

| Strain designation | Seeded May 8, 1951       |          |          |          | 4 replications |  |  |  |
|--------------------|--------------------------|----------|----------|----------|----------------|--|--|--|
|                    | Tons dry matter per acre |          |          |          |                |  |  |  |
|                    | 1st cut                  | 2nd cut  | 3rd cut  | Season   |                |  |  |  |
|                    | 6/22/55                  | 8/1/55   | 9/25/55  | total    |                |  |  |  |
|                    | Adj.mean                 | Adj.mean | Adj.mean | Adj.mean |                |  |  |  |
| 97-W28 NY          | 1.913                    | .984     | .756     | 3.653    |                |  |  |  |
| " C162             | 1.183                    | .841     | .642     | 2.660    |                |  |  |  |
| " C177             | 1.262                    | .922     | .602     | 2.786    |                |  |  |  |
| " C190             | 1.443                    | .907     | .657     | 3.007    |                |  |  |  |
| " C195             | 1.481                    | .849     | .599     | 2.929    |                |  |  |  |
| " C196             | 1.494                    | .903     | .671     | 3.068    |                |  |  |  |
| " C240             | 1.478                    | .870     | .667     | 3.015    |                |  |  |  |
| " C248             | 1.540                    | .983     | .680     | 3.203    |                |  |  |  |
| " 1740             | 1.323                    | .855     | .648     | 2.826    |                |  |  |  |
| " 1781             | 1.220                    | .818     | .723     | 2.761    |                |  |  |  |
| " 1799             | 1.415                    | .918     | .783     | 3.116    |                |  |  |  |
| " 1804             | 1.531                    | 1.010    | .692     | 3.233    |                |  |  |  |
| " 1863             | 1.588                    | .809     | .726     | 3.123    |                |  |  |  |
| " 1942             | 1.551                    | .953     | .704     | 3.208    |                |  |  |  |
| " 1947             | 1.529                    | .811     | .676     | 3.016    |                |  |  |  |
| " 1950             | 1.572                    | 1.143    | .687     | 3.402    |                |  |  |  |
| " 1953             | 1.396                    | .976     | .842     | 3.214    |                |  |  |  |
| " 1957             | 1.383                    | .974     | .683     | 3.040    |                |  |  |  |
| " 1960             | 1.383                    | .833     | .686     | 2.902    |                |  |  |  |
| " 1964             | 1.482                    | .923     | .743     | 3.148    |                |  |  |  |
| " 1969             | 1.399                    | .929     | .656     | 2.984    |                |  |  |  |
| " 1980             | 1.249                    | .783     | .643     | 2.675    |                |  |  |  |
| " 1986             | 1.462                    | .902     | .713     | 3.077    |                |  |  |  |
| " 1988             | 1.416                    | .858     | .665     | 2.939    |                |  |  |  |

(Continued)

## PENNSYLVANIA

Table 1 - Complete Advanced Nursery - Continued

| Strain designation                      | Tons dry matter per acre |          |          |          |
|-----------------------------------------|--------------------------|----------|----------|----------|
|                                         | 1st cut                  | 2nd cut  | 3rd cut  | Season   |
|                                         | 6/22/55                  | 8/1/55   | 9/25/55  | total    |
|                                         | Adj.mean                 | Adj.mean | Adj.mean | Adj.mean |
| 97-1993                                 | 1.526                    | .926     | .694     | 3.146    |
| " 1996                                  | 1.593                    | .848     | .605     | 3.046    |
| " 2002                                  | 1.294                    | .925     | .645     | 2.864    |
| " 2016                                  | 1.619                    | .969     | .727     | 3.315    |
| " 2025                                  | 2.275                    | 1.125    | .761     | 4.161    |
| " 2067                                  | 1.728                    | .897     | .669     | 3.294    |
| " 2069                                  | 1.532                    | 1.058    | .694     | 3.284    |
| " 2072                                  | 1.534                    | .956     | .739     | 3.229    |
| " 2083                                  | 1.856                    | 1.242    | .738     | 3.836    |
| " 2095                                  | 1.543                    | .922     | .709     | 3.174    |
| " 2102                                  | 1.422                    | .961     | .680     | 3.063    |
| " 2120                                  | 1.450                    | .868     | .678     | 2.996    |
| Utah Heise strain                       | 1.208                    | .704     | .683     | 2.595    |
| A-233 Utah grown                        | 1.437                    | .876     | .688     | 3.001    |
| Talent Oregon                           | 1.129                    | .888     | .621     | 2.638    |
| Narragansett-Rhode<br>Island            | 1.501                    | .920     | .606     | 3.027    |
| Williamsburg, Va.                       | 1.293                    | .942     | .646     | 2.881    |
| Grimm                                   | 1.350                    | .914     | .652     | 2.916    |
| Kansas Common                           | 1.669                    | 1.024    | .727     | 3.420    |
| Buffalo                                 | 1.195                    | .914     | .635     | 2.744    |
| Ladak                                   | 1.506                    | .874     | .592     | 2.972    |
| Ranger                                  | 1.336                    | .909     | .663     | 2.908    |
| Atlantic FC.23802                       | 1.290                    | .947     | .734     | 2.971    |
| Du Puits                                | 1.372                    | .826     | .675     | 2.873    |
| A-231 (Kans.Syn)                        | 1.341                    | .842     | .714     | 2.997    |
| Average                                 | 1.46                     | .92      | .68      | 3.068    |
| F value for varieties<br>(using $E_r$ ) | 1.83**                   | 1.05 NS. | 1.43 NS. | 2.82**   |
| F value for varieties<br>(most precise) | <1                       | <1       | 1.69*    |          |
| LSD (Average for any<br>comparison)     | .05                      | .448     | .264     | .109     |
|                                         | .01                      | .593     | .349     | .144     |
| CV percent                              | 22.76                    | 28.93    | 12.84    | 24.38    |
| Relative precision<br>of lattice        | 108.11                   | 200.17   | 126.51   | 125.80   |

## PENNSYLVANIA

Table 2 - Northeast Uniform Alfalfa Nursery  
State College 1955 dataPlots 5 ft x 16 ft. 9 x 9 simple lattice  
Seeded 1951. Seeding rate 55 viable seed/ square foot

| Strain designation | Tons of dry matter per Acre |          |          |          |
|--------------------|-----------------------------|----------|----------|----------|
|                    | 1st cut                     | 2nd cut  | 3rd cut  | Season   |
|                    | 6/22/55                     | 7/29/55  | 9/20/55  | total    |
|                    | Adj.mean                    | Adj.mean | Adj.mean | Adj.mean |
| 07E - C2           | 1.390                       | .621     | .580     | 2.59     |
| C3                 | 1.357                       | .535     | .583     | 2.48     |
| C10                | 1.515                       | .645     | .635     | 2.80     |
| C11                | 1.298                       | .554     | .505     | 2.36     |
| C12                | 1.495                       | .668     | .602     | 2.76     |
| C13                | 1.443                       | .599     | .572     | 2.61     |
| C14                | 1.421                       | .635     | .551     | 2.61     |
| C27                | 1.327                       | .545     | .547     | 2.42     |
| C32                | 1.364                       | .550     | .601     | 2.52     |
| C35                | 1.569                       | .619     | .579     | 2.77     |
| C36                | 1.536                       | .583     | .582     | 2.70     |
| C42                | 1.634                       | .543     | .564     | 2.74     |
| C44                | 1.407                       | .562     | .564     | 2.53     |
| C46                | 1.324                       | .576     | .541     | 2.44     |
| C51                | 1.832                       | .577     | .661     | 3.07     |
| C53                | 1.670                       | .573     | .660     | 2.90     |
| C54                | 1.426                       | .488     | .546     | 2.46     |
| C57                | 1.331                       | .449     | .560     | 2.34     |
| C79                | 1.464                       | .689     | .599     | 2.75     |
| C87                | 1.431                       | .553     | .562     | 2.55     |
| C91                | 1.749                       | .543     | .634     | 2.93     |
| C112               | 1.692                       | .692     | .604     | 2.99     |
| C130               | 1.619                       | .516     | .571     | 2.71     |
| C144               | 1.377                       | .567     | .561     | 2.50     |
| C174               | 1.365                       | .613     | .630     | 2.61     |
| C175               | 1.511                       | .568     | .576     | 2.66     |
| C176               | 1.406                       | .608     | .600     | 2.61     |
| C180               | 1.361                       | .505     | .567     | 2.43     |
| C183               | 1.368                       | .529     | .560     | 2.46     |
| C184               | 1.316                       | .509     | .542     | 2.37     |
| C187               | 1.389                       | .588     | .582     | 2.56     |
| C188               | 1.636                       | .582     | .559     | 2.78     |
| C190               | 1.274                       | .533     | .549     | 2.36     |
| C191               | 1.302                       | .579     | .588     | 2.47     |
| C195               | 1.468                       | .564     | .624     | 2.66     |
| C196               | 1.523                       | .555     | .628     | 2.71     |

(Continued)



## PENNSYLVANIA

Table 2 - Northeast Uniform Nursery - Continued

| Strain designation | Tons of dry matter per Acre |                     |                     |                   |
|--------------------|-----------------------------|---------------------|---------------------|-------------------|
|                    | 1st cut                     | 2nd cut             | 3rd cut             | Season            |
|                    | 6/22/55<br>Adj.mean         | 7/29/55<br>Adj.mean | 9/20/55<br>Adj.mean | Total<br>Adj.mean |
| 07E - C197         | 1.313                       | .514                | .583                | 2.41              |
| C199               | 1.400                       | .558                | .576                | 2.53              |
| C221               | 1.478                       | .468                | .598                | 2.54              |
| C223               | 1.401                       | .537                | .538                | 2.48              |
| - 5-7 N.J.         | 1.468                       | .571                | .555                | 2.59              |
| -49-6 N.Y.         | 1.596                       | .642                | .585                | 2.82              |
| 49-8               | 1.454                       | .568                | .554                | 2.58              |
| 49-10              | 1.350                       | .523                | .610                | 2.48              |
| 49-13              | 1.445                       | .583                | .584                | 2.61              |
| 49-14              | 1.342                       | .579                | .613                | 2.53              |
| 49-15              | 1.459                       | .563                | .536                | 2.56              |
| 49-19              | 1.257                       | .593                | .568                | 2.42              |
| 49-20              | 1.200                       | .512                | .548                | 2.26              |
| 49-22              | 1.387                       | .566                | .555                | 2.51              |
| 49-26              | 1.455                       | .607                | .615                | 2.68              |
| Wis. Syn-C         | 1.303                       | .523                | .494                | 2.32              |
| 07E -49- 32        | 1.529                       | .588                | .520                | 2.64              |
| 49-33              | 1.354                       | .479                | .544                | 2.38              |
| 49-34              | 1.416                       | .531                | .586                | 2.53              |
| 49-35              | 1.473                       | .585                | .559                | 2.62              |
| 49-37              | 1.361                       | .645                | .511                | 2.52              |
| 49-38              | 1.464                       | .554                | .501                | 2.52              |
| 49-39              | 1.361                       | .538                | .558                | 2.46              |
| 49-41              | 1.229                       | .469                | .468                | 2.17              |
| 49-44              | 1.497                       | .555                | .487                | 2.54              |
| 49-45              | 1.493                       | .540                | .583                | 2.62              |
| 49-48              | 1.288                       | .491                | .527                | 2.31              |
| 49-50              | 1.654                       | .591                | .589                | 2.83              |
| 49-55              | 1.611                       | .615                | .642                | 2.87              |
| 49-57              | 1.519                       | .625                | .634                | 2.78              |
| 49-58              | 1.392                       | .444                | .544                | 2.38              |
| 49-60              | 1.489                       | .508                | .561                | 2.56              |
| 49-64              | 1.467                       | .529                | .541                | 2.54              |
| 49-65              | 1.585                       | .505                | .560                | 2.65              |
| 49-68              | 1.361                       | .480                | .516                | 2.36              |
| 49-69              | 1.646                       | .581                | .630                | 2.86              |
| 49-72              | 1.512                       | .612                | .636                | 2.76              |
| 49-75              | 1.449                       | .616                | .569                | 2.63              |
| 07E- Ranger        | 1.457                       | .616                | .591                | 2.66              |

(Continued)

## PENNSYLVANIA

Table 2 - Northeast Uniform Nursery - Continued

| Strain designation                   | Tons of dry matter per Acre |          |          |          |
|--------------------------------------|-----------------------------|----------|----------|----------|
|                                      | 1st cut                     | 2nd cut  | 3rd cut  | Season   |
|                                      | 6/22/55                     | 7/29/55  | 9/20/55  | total    |
|                                      | Adj.mean                    | Adj.mean | Adj.mean | Adj.mean |
| A-224 Syn(Rhi.Syn)                   | 1.290                       | .555     | .601     | 2.54     |
| A-226 Syn (Eastern Syn)              | 1.327                       | .499     | .478     | 2.30     |
| Buffalo                              | 1.445                       | .610     | .588     | 2.64     |
| Narragansett                         | 1.123                       | .456     | .537     | 2.12     |
| Atlantic                             | 1.379                       | .511     | .563     | 2.45     |
| Vernal                               | 1.394                       | .602     | .567     | 2.56     |
| Average                              | 1.44                        | .561     | .564     | 2.57     |
| F value for varieties (using $E_r$ ) | 1.51*                       | 1.72**   | .97 NS.  | 2.30**   |
| F value for varieties (most precise) | 1.57**                      | 1.41*    | 1.16 NS. |          |
| LSD (Average for any comparison)     | .05                         | .123     | --       | .318     |
|                                      | .01                         | .163     | --       | .420     |
| Relative precision of lattice        | 147.22%                     | 113.06%  | 131.00%  | 139.98%  |
| CV percent                           | 16.64                       | 16.78    | 14.89    | 25.85    |

Table 3 - 1955 Yields of ten Alfalfa Varieties  
State College

| 1951 plantings. | Tons of dry matter/Acre |          |         |         |
|-----------------|-------------------------|----------|---------|---------|
|                 | 1st cut                 | 2nd cut  | 3rd cut | Season  |
| Variety         | 6/22/55                 | 7/29/55  | 9/20/55 | Total   |
| Atlantic        | 1.60                    | 1.04     | .70     | 3.33    |
| Buffalo         | 1.64                    | 1.07     | .65     | 3.36    |
| Grimm           | 1.69                    | 1.06     | .61     | 3.36    |
| Hardy Common    | 1.59                    | 1.06     | .73     | 3.36    |
| Narragansett    | 1.63                    | .99      | .64     | 3.27    |
| Ranger          | 1.59                    | .90      | .68     | 3.18    |
| Talent          | 1.18                    | .99      | .65     | 2.82    |
| A-224           | 1.84                    | .91      | .60     | 3.36    |
| A-226           | 1.56                    | .93      | .67     | 3.15    |
| Rhizoma         | 1.68                    | 1.14     | .60     | 3.42    |
| Average         | 1.60                    | 1.01     | .65     | 3.27    |
| F for varieties | 1.913 NS                | 1.24 NS. | 1.26 NS | 1.48 NS |
| F for V x C     |                         |          |         | 1.82*   |
| CV percent      | 15.18                   | 13.99    | 11.54   | 15.40   |

## PENNSYLVANIA

Table 4 - Alfalfa NE Uniform Variety Test - Tier I  
State College

Plots 5 ft x 20 ft. Randomized block design.

Seeded August 13, 1953

3 replications

| Entry                    | Tons dry matter per acre |                   |                    |                  |
|--------------------------|--------------------------|-------------------|--------------------|------------------|
|                          | 1st cut<br>6/22/55       | 2nd cut<br>8/1/55 | 3rd cut<br>10/1/55 | Total<br>average |
| Atlantic                 | 1.75                     | .78               | .63                | 3.16             |
| Buffalo                  | 1.29                     | .64               | .52                | 2.45             |
| Du Puits                 | 1.85                     | .79               | .59                | 3.23             |
| Grimm                    | 1.86                     | .82               | .63                | 3.31             |
| Narragansett             | 1.90                     | .89               | .58                | 3.37             |
| Nomad                    | 1.69                     | .44               | .45                | 2.58             |
| Ranger                   | 1.32                     | .65               | .53                | 2.50             |
| Rhizoma                  | 1.81                     | .83               | .54                | 3.18             |
| Sevelra                  | 1.14                     | .53               | .52                | 2.19             |
| Socheville               | 1.39                     | .82               | .53                | 2.74             |
| Talent                   | 1.11                     | .67               | .53                | 2.31             |
| Vernal                   | 1.79                     | .93               | .52                | 3.24             |
| Williamsburg             | 1.39                     | .86               | .55                | 2.75             |
| A-224                    | 1.35                     | .60               | .43                | 2.39             |
| Northern Synthetic       | 1.76                     | .76               | .60                | 3.12             |
| Average                  | 1.56                     | .73               | .54                | 2.83             |
| F value for<br>varieties | 2.56*                    | 2.25*             | N.S.               | 3.96**           |
| LSD .05                  | .51                      | .27               | N.S.               | .580             |
| .01                      | --                       | --                | --                 | .770             |
| CV percent               | 19.49                    | 22.19             | 17.41              | 21.80            |

## RHODE ISLAND

Alfalfa Variety and Strain Testing  
Kingston - 1955

The 1955 growing season was very favorable for alfalfa production. Foliage diseases were not serious on any of the alfalfas tested.

Tables 1 and 2 present yield data and other data for Incomplete Advanced Nurseries I and II.

1. Randomized block design, four replications.
2. Seed - Two grams viable seed per 20 foot row. Two and one-half feet between rows.
3. Fertilizer - 600 pounds 0-15-30 in split application annually.
4. Harvest dates and stage of maturity --  

June 16 - - one-half bloom  
July 21 - - one-half bloom  
August 31 - - one-tenth bloom
5. Vigor ratings based on a 1 to 10 scoring system with 1 as the most desirable.



## RHODE ISLAND

Table 1 - Incomplete Advanced Nursery I -1955- Kingston

Seeded August 1951. Selections PC2, PC3, PC4, PC5,  
and PC6 are from the Narragansett variety

| Variety              | Stand<br>percent<br>5/26 | Vigor<br>5/26 | Yield in tons per acre D.M. |         |         | Season<br>total |
|----------------------|--------------------------|---------------|-----------------------------|---------|---------|-----------------|
|                      |                          |               | 1st cut                     | 2nd cut | 3rd cut |                 |
| Narragansett (Idaho) | 98                       | 3.2           | .98                         | .80     | .67     | 2.45            |
| Narragansett (R.I.)  | 95                       | 2.5           | 1.08                        | .73     | .56     | 2.37            |
| PC2                  | 96                       | 4.0           | .89                         | .78     | .60     | 2.27            |
| PC5                  | 88                       | 3.2           | .86                         | .69     | .50     | 2.05            |
| Buffalo              | 92                       | 3.5           | .81                         | .66     | .54     | 2.01            |
| PC3                  | 92                       | 4.5           | .77                         | .70     | .55     | 2.02            |
| A-229 Syn-1          | 91                       | 4.0           | .81                         | .71     | .48     | 2.00            |
| PC4                  | 95                       | 3.0           | .78                         | .71     | .44     | 1.93            |
| Williamsburg         | 89                       | 3.8           | .72                         | .65     | .55     | 1.92            |
| PC6                  | 91                       | 4.8           | .74                         | .63     | .46     | 1.83            |
| Narragansett(Calif)  | 94                       | 4.0           | .73                         | .58     | .49     | 1.80            |
| A-219 Syn-1          | 91                       | 4.8           | .64                         | .68     | .48     | 1.80            |
| 97-1740              | 91                       | 5.0           | .64                         | .66     | .48     | 1.78            |
| A-233-Syn-1          | 88                       | 6.0           | .64                         | .55     | .40     | 1.59            |
| 97C-240              | 88                       | 5.2           | .58                         | .54     | .48     | 1.60            |
| A-225 Syn-1          | 90                       | 4.2           | .62                         | .57     | .40     | 1.59            |
| A-224 Syn-3          | 84                       | 5.5           | .62                         | .57     | .38     | 1.57            |
| Ranger               | 86                       | 4.8           | .63                         | .49     | .42     | 1.54            |
| Kansas Common        | 90                       | 5.5           | .51                         | .54     | .46     | 1.51            |
| A-207 Syn-3          | 84                       | 6.0           | .60                         | .52     | .35     | 1.47            |
| A-202 Syn-4          | 85                       | 6.0           | .53                         | .55     | .38     | 1.46            |
| A-201 Syn-3          | 88                       | 6.0           | .58                         | .47     | .36     | 1.41            |
| Grimm                | 86                       | 6.0           | .50                         | .45     | .38     | 1.33            |
| Hardistan            | 78                       | 6.0           | .55                         | .39     | .35     | 1.29            |
| Atlantic             | 78                       | 5.0           | .46                         | .38     | .35     | 1.19            |
| Sevelra              | 85                       | 7.0           | .38                         | .38     | .24     | 1.00            |
| Ladak                | 38                       | 9.5           | .15                         | .18     | .10     | .43             |
| LSD                  | .05                      |               |                             |         |         | .60             |
|                      | .01                      |               |                             |         |         | .80             |
| CV                   |                          |               |                             |         |         | 22.33%          |

## RHODE ISLAND

Table 2 - Incomplete Advanced Nursery II -1955- Kingston

Seeded April 1952. Selections PC2, PC3, PC4, PC5,  
and PC6 are from the Narragansett variety

| Variety             | Stand<br>percent<br>5/26 | Vigor<br>5/26 | Yield in tons per acre -D.M. |         |         | Season<br>total |
|---------------------|--------------------------|---------------|------------------------------|---------|---------|-----------------|
|                     |                          |               | 1st cut                      | 2nd cut | 3rd cut |                 |
| PC4                 | 92                       | 2.0           | 1.01                         | .93     | .66     | 2.60            |
| Narragansett        |                          |               |                              |         |         |                 |
| FC.24333            | 98                       | 2.2           | 1.08                         | .81     | .64     | 2.53            |
| Rhizoma (2) UBC     | 96                       | 3.0           | .77                          | .84     | .64     | 2.25            |
| Rhizoma (1) UBC     | 96                       | 3.0           | .80                          | .79     | .64     | 2.23            |
| PC5                 | 91                       | 3.2           | .81                          | .73     | .58     | 2.12            |
| PC3                 | 91                       | 2.5           | .74                          | .78     | .54     | 2.06            |
| Narragansett (R.I.) | 94                       | 3.8           | .72                          | .75     | .54     | 2.01            |
| PC6                 | 91                       | 3.5           | .69                          | .73     | .56     | 1.98            |
| Rhizoma FC.24077    | 95                       | 4.5           | .62                          | .72     | .60     | 1.94            |
| PC2                 | 94                       | 3.5           | .69                          | .66     | .52     | 1.87            |
| Du Puits            | 90                       | 3.2           | .62                          | .71     | .46     | 1.79            |
| Atlantic            | 86                       | 3.8           | .60                          | .62     | .54     | 1.76            |
| Wisconsin Syn-C     | 86                       | 6.0           | .51                          | .60     | .47     | 1.58            |
| Sevelra             | 82                       | 5.8           | .46                          | .61     | .46     | 1.53            |
| Grimm               | 86                       | 4.2           | .44                          | .62     | .47     | 1.53            |
| Ranger              | 85                       | 5.0           | .46                          | .54     | .36     | 1.36            |
| Ladak               | 64                       | 7.0           | .27                          | .40     | .28     | .95             |
| Nevada A-224        | 61                       | 6.2           | .18                          | .40     | .34     | .92             |
| LSD                 | .05                      |               |                              |         |         | .58             |
|                     | .01                      |               |                              |         |         | .75             |
| CV                  |                          |               |                              |         |         | 19.10%          |

## VIRGINIA

Table 1 - Uniform Alfalfa Nursery - Blacksburg

Seeded in 1950. Harvests reported are for 1955

| Entry             | Yield of dry forage<br>pounds per plot |                    |                   |                    | Season yield<br>Tons/Acre of<br>air dry hay |
|-------------------|----------------------------------------|--------------------|-------------------|--------------------|---------------------------------------------|
|                   | 1st cut<br>5/18/55                     | 2nd cut<br>6/29/55 | 3rd cut<br>8/2/55 | 4th cut<br>9/12/55 |                                             |
| 97-C190           | 4.42                                   | 4.79               | 3.74              | 2.53               | 3.37                                        |
| 97-C195           | 3.76                                   | 3.78               | 2.96              | 2.42               | 2.81                                        |
| 97-C196           | 4.46                                   | 4.97               | 3.50              | 2.47               | 3.06                                        |
| 97-C240           | 5.04                                   | 4.98               | 3.29              | 2.62               | 3.47                                        |
| 97-1740           | 4.46                                   | 5.18               | 3.55              | 2.55               | 3.43                                        |
| 97-1781           | 4.23                                   | 4.64               | 3.26              | 2.07               | 3.09                                        |
| 97-1799           | 5.03                                   | 4.54               | 3.27              | 2.59               | 3.36                                        |
| 97-1804           | 4.16                                   | 4.80               | 3.57              | 2.67               | 3.31                                        |
| 97-1863           | 3.03                                   | 3.30               | 2.03              | 1.93               | 2.24                                        |
| 97-1942           | 3.68                                   | 4.14               | 2.79              | 2.67               | 2.82                                        |
| 97-1947           | 3.99                                   | 4.19               | 3.00              | 2.32               | 2.94                                        |
| 97-1950           | 4.54                                   | 4.61               | 3.66              | 2.72               | 3.38                                        |
| 97-1953           | 4.57                                   | 4.80               | 3.24              | 2.58               | 3.31                                        |
| 97-1957           | 3.52                                   | 4.30               | 2.90              | 2.47               | 2.87                                        |
| 97-1964           | 4.80                                   | 4.70               | 3.20              | 2.51               | 3.31                                        |
| 97-1969           | 3.49                                   | 3.85               | 2.79              | 2.03               | 2.65                                        |
| 97-1980           | 3.70                                   | 2.41               | 2.92              | 2.61               | 2.53                                        |
| 97-1988           | 5.30                                   | 4.83               | 3.77              | 2.77               | 3.63                                        |
| 97-1993           | 4.62                                   | 5.28               | 3.41              | 2.43               | 3.43                                        |
| 97-1996           | 4.95                                   | 4.42               | 3.71              | 2.91               | 3.48                                        |
| 97-2002           | 3.11                                   | 4.05               | 2.94              | 2.41               | 2.72                                        |
| 97-2016           | 2.59                                   | 3.84               | 3.03              | 2.34               | 2.60                                        |
| 97-2025           | 3.83                                   | 2.94               | 3.04              | 2.41               | 2.70                                        |
| 97-2067           | 4.05                                   | 4.11               | 2.69              | 2.29               | 2.87                                        |
| 97-2069           | 4.23                                   | 5.10               | 4.31              | 2.80               | 3.58                                        |
| 97-2072           | 4.50                                   | 4.83               | 3.33              | 2.45               | 3.29                                        |
| 97-2076           | 4.55                                   | 4.70               | 3.02              | 2.31               | 3.18                                        |
| 97-2083           | 4.56                                   | 4.56               | 3.29              | 2.49               | 3.25                                        |
| 97-2095           | 3.94                                   | 4.78               | 3.12              | 2.65               | 3.16                                        |
| 97-2102           | 4.60                                   | 5.68               | 3.97              | 2.64               | 3.68                                        |
| 97-2120           | 4.25                                   | 4.84               | 3.38              | 2.30               | 3.23                                        |
| Narragansett      | 3.70                                   | 4.62               | 3.37              | 2.24               | 3.03                                        |
| Williamsburg, Va. | 4.18                                   | 4.92               | 3.92              | 2.45               | 3.37                                        |
| Grimm             | 3.48                                   | 3.88               | 3.05              | 2.85               | 2.89                                        |
| Kansas Common     | 4.39                                   | 4.83               | 4.15              | 2.78               | 3.52                                        |
| Buffalo           | 4.01                                   | 4.51               | 3.95              | 2.77               | 3.32                                        |

(Continued)

## VIRGINIA

Table 1 - Uniform Nursery - Blacksburg - Continued

| Entry            | Yield of dry forage,<br>pounds per plot |         |         |         | Season yield<br>Tons/Acre of<br>air dry hay |
|------------------|-----------------------------------------|---------|---------|---------|---------------------------------------------|
|                  | 1st cut                                 | 2nd cut | 3rd cut | 4th cut |                                             |
|                  | 5/18/55                                 | 6/29/55 | 8/2/55  | 9/12/55 |                                             |
| Ladak Commercial | 3.24                                    | 2.73    | 2.18    | 2.06    | 2.22                                        |
| Ranger           | 4.17                                    | 5.04    | 3.64    | 2.45    | 3.33                                        |
| Atlantic         |                                         |         |         |         |                                             |
| FC.23802         | 3.69                                    | 4.47    | 3.55    | 2.65    | 3.13                                        |
| Du Puits         | 2.77                                    | 3.99    | 2.86    | 2.04    | 2.54                                        |
| LSD              | .05                                     |         |         |         | 0.64                                        |
| CV               |                                         |         |         |         | 12%                                         |

Table 2 - Complete Advanced Alfalfa Nursery-Blacksburg

Seeded in 1949. Harvests reported are for 1955

| Entry   | Yield of dry forage,<br>pounds per plot |         |         |         | Season yield<br>Tons/Acre of<br>air dry hay |
|---------|-----------------------------------------|---------|---------|---------|---------------------------------------------|
|         | 1st cut                                 | 2nd cut | 3rd cut | 4th cut |                                             |
|         | 5/20/55                                 | 6/28/55 | 8/3/55  | 9/12/55 |                                             |
| 89-C87  | 3.98                                    | 3.28    | 2.11    | 2.33    | 2.55                                        |
| 87-C140 | 3.55                                    | 3.96    | 3.05    | 2.72    | 2.89                                        |
| 87-C151 | 4.17                                    | 4.14    | 2.85    | 2.52    | 2.98                                        |
| 87-C184 | 3.43                                    | 3.38    | 2.08    | 2.17    | 2.41                                        |
| 87-C192 | 3.89                                    | 3.70    | 2.57    | 2.40    | 2.74                                        |
| 87-C193 | 3.57                                    | 4.11    | 2.62    | 2.28    | 2.74                                        |
| 87-C194 | 3.64                                    | 3.60    | 2.66    | 2.32    | 2.66                                        |
| 87-C199 | 3.28                                    | 3.20    | 2.48    | 2.13    | 2.41                                        |
| 87-C218 | 3.08                                    | 2.77    | 2.05    | 1.58    | 2.07                                        |
| 87-C223 | 3.12                                    | 2.92    | 2.04    | 1.96    | 2.19                                        |
| 87-C235 | 3.27                                    | 3.40    | 2.41    | 2.24    | 2.47                                        |
| 87-C240 | 3.81                                    | 3.46    | 2.30    | 1.99    | 2.52                                        |
| 87-C241 | 3.52                                    | 3.97    | 2.83    | 2.39    | 2.77                                        |
| 87-C242 | 4.82                                    | 4.85    | 3.30    | 2.71    | 3.41                                        |
| 87-C243 | 3.91                                    | 3.31    | 2.72    | 2.14    | 2.49                                        |
| 87-C244 | 4.41                                    | 4.18    | 3.10    | 2.63    | 3.12                                        |
| 87-C245 | 4.42                                    | 3.96    | 2.79    | 2.69    | 3.02                                        |
| 87-1740 | 3.65                                    | 3.59    | 2.35    | 2.26    | 2.58                                        |
| 87-1742 | 2.96                                    | 3.33    | 2.06    | 2.12    | 2.28                                        |
| 87-1761 | 3.43                                    | 3.52    | 2.08    | 1.94    | 2.39                                        |

(Continued)



Table 2 - Complete Advanced Nursery - Blacksburg - Continued

| Entry         | Yield of dry forage,<br>pounds per plot |         |         |         | Season yield<br>Tons/Acre of<br>air dry hay |
|---------------|-----------------------------------------|---------|---------|---------|---------------------------------------------|
|               | 1st cut                                 | 2nd cut | 3rd cut | 4th cut |                                             |
|               | 5/20/55                                 | 6/28/55 | 8/3/55  | 9/12/55 |                                             |
| 87-1825       | 3.85                                    | 3.85    | 2.52    | 2.37    | 2.74                                        |
| 87-1833       | 4.31                                    | 4.17    | 2.92    | 2.67    | 3.06                                        |
| 87-1846       | 3.52                                    | 4.11    | 3.03    | 2.69    | 2.91                                        |
| 87-1856       | 3.44                                    | 3.74    | 2.59    | 2.28    | 2.62                                        |
| 87-1861       | 3.81                                    | 4.25    | 3.04    | 2.58    | 2.98                                        |
| 87-1863       | 3.54                                    | 3.36    | 2.30    | 2.22    | 2.49                                        |
| 87-1879       | 3.81                                    | 3.85    | 2.70    | 2.49    | 2.80                                        |
| 87-1907       | 4.30                                    | 3.94    | 2.41    | 2.35    | 2.83                                        |
| 87-1908       | 3.06                                    | 3.11    | 2.13    | 1.82    | 2.20                                        |
| 87-1911       | 3.42                                    | 3.64    | 2.65    | 2.26    | 2.61                                        |
| 87-1917       | 3.79                                    | 4.05    | 2.67    | 2.39    | 2.81                                        |
| Williamsburg  | 3.40                                    | 4.14    | 3.25    | 2.42    | 2.88                                        |
| 87-1922       | 4.18                                    | 3.94    | 2.72    | 2.44    | 2.89                                        |
| 87-1929       | 3.09                                    | 3.42    | 2.40    | 2.14    | 2.41                                        |
| 87-1936       | 2.80                                    | 3.11    | 1.80    | 1.98    | 2.11                                        |
| Narragansett  | 3.08                                    | 3.21    | 2.08    | 1.80    | 2.21                                        |
| Oklahoma      | 3.45                                    | 3.60    | 2.69    | 2.35    | 2.63                                        |
| Ranger        | 3.27                                    | 3.54    | 2.44    | 2.17    | 2.48                                        |
| Atlantic      | 2.84                                    | 3.56    | 2.48    | 1.97    | 2.36                                        |
| Buffalo       | 3.30                                    | 3.55    | 2.55    | 2.21    | 2.53                                        |
| Ladak         | 2.76                                    | 0.98    | 0.81    | 0.82    | 1.17                                        |
| Kansas Common | 2.37                                    | 3.03    | 2.22    | 2.02    | 2.10                                        |
| Grimm         | 2.81                                    | 1.58    | 1.55    | 1.78    | 2.68                                        |

LSD .05

.67

CV

16%

## VIRGINIA

## Grazing Type Alfalfa Test-1955-Staunton

Seeding Date: April 29, 1954

Association: Pure seedings

Soil Type: Berks silt loam

Rate of seeding: 10 pounds per acre except Williamsburg which  
was 20 pounds per acre

Size of harvested sample: 75 square feet

Cutting dates: 5/23/55; 6/27/55; 8/2/55; 9/15/55

| Variety                       | Yield of air dry hay per 75 sq. ft. |             |             |             |  | Pounds<br>per acre |
|-------------------------------|-------------------------------------|-------------|-------------|-------------|--|--------------------|
|                               | Cut-<br>ting                        | Rep.I       | Rep.II      | Total       |  |                    |
| Canadian FC.32145<br>SC 34922 | 1                                   | .56         | 1.04        | 1.60        |  |                    |
|                               | 2                                   | 2.56        | 3.44        | 6.00        |  |                    |
|                               | 3                                   | .90         | 1.80        | 2.70        |  |                    |
|                               | 4                                   | <u>1.93</u> | <u>3.52</u> | <u>5.45</u> |  |                    |
|                               | Total                               | 5.95        | 9.80        | 15.75       |  | 4578               |
| A-222 FC.24992                | 1                                   | 2.74        | 3.00        | 5.74        |  |                    |
|                               | 2                                   | 4.27        | 4.92        | 9.19        |  |                    |
|                               | 3                                   | 1.75        | 2.52        | 4.27        |  |                    |
|                               | 4                                   | <u>4.09</u> | <u>3.75</u> | <u>7.84</u> |  |                    |
|                               | Total                               | 12.85       | 14.19       | 27.04       |  | 7855               |
| Williamsburg FC.24803         | 1                                   | 1.60        | 1.60        | 3.20        |  |                    |
|                               | 2                                   | 3.79        | 4.08        | 7.87        |  |                    |
|                               | 3                                   | 2.25        | 2.30        | 4.55        |  |                    |
|                               | 4                                   | <u>3.98</u> | <u>3.47</u> | <u>7.45</u> |  |                    |
|                               | Total                               | 11.62       | 11.45       | 23.07       |  | 6699               |
| A-169 FC.24989                | 1.                                  | 1.37        | 1.54        | 2.91        |  |                    |
|                               | 2                                   | 4.25        | 3.72        | 7.97        |  |                    |
|                               | 3                                   | 2.07        | 2.40        | 4.47        |  |                    |
|                               | 4                                   | <u>3.31</u> | <u>3.77</u> | <u>7.08</u> |  |                    |
|                               | Total                               | 11.00       | 11.43       | 22.43       |  | 6513               |
| Sevelra FC.24660              | 1                                   | 1.51        | 2.07        | 3.58        |  |                    |
|                               | 2                                   | 3.70        | 3.96        | 7.66        |  |                    |
|                               | 3                                   | 1.87        | 2.77        | 4.64        |  |                    |
|                               | 4                                   | <u>3.52</u> | <u>3.01</u> | <u>6.53</u> |  |                    |
|                               | Total                               | 10.60       | 11.81       | 22.41       |  | 6507               |
| Vernal FC.31983               | 1                                   | 3.58        | 1.26        | 4.84        |  |                    |
|                               | 2                                   | 5.05        | 4.44        | 9.48        |  |                    |
|                               | 3                                   | 2.65        | 2.42        | 5.07        |  |                    |
|                               | 4                                   | <u>3.56</u> | <u>4.02</u> | <u>7.58</u> |  |                    |
|                               | Total                               | 14.83       | 12.44       | 26.97       |  | 7838               |
| Rhizoma FC.24798              | 1                                   | 2.49        | 2.07        | 4.56        |  |                    |
|                               | 2                                   | 4.78        | 4.87        | 9.65        |  |                    |
|                               | 3                                   | 2.42        | 3.00        | 5.42        |  |                    |
|                               | 4                                   | <u>3.77</u> | <u>3.86</u> | <u>7.63</u> |  |                    |
|                               | Total                               | 13.46       | 13.80       | 27.26       |  | 7919               |

(Continued)

VIRGINIA

Grazing Type Alfalfa Test - Staunton - Continued

| Variety        | Yields of air dry hay per 75 sq. ft |       |        |       |                    |
|----------------|-------------------------------------|-------|--------|-------|--------------------|
|                | Cut-<br>ting                        | Rep.I | Rep.II | Total | Pounds<br>per acre |
| Nomad FC.32085 | 1                                   | 1.79  | 2.46   | 4.25  |                    |
|                | 2                                   | 3.46  | 3.36   | 6.82  |                    |
|                | 3                                   | 1.42  | 1.37   | 2.79  |                    |
|                | 4                                   | 3.17  | 4.12   | 7.29  |                    |
|                | Total                               | 9.84  | 13.31  | 21.45 | 6228               |

TOTALS

| Entries  | I     | II    | III   | IV    | V     | VI    | VII   | VIII  | Total  |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Cuttings |       |       |       |       |       |       |       |       |        |
| 1)5/23   | 1.60  | 5.74  | 3.20  | 2.91  | 3.58  | 4.84  | 4.56  | 4.25  | 30.68  |
| 2)6/27   | 6.00  | 9.19  | 7.87  | 7.97  | 7.66  | 9.48  | 9.65  | 6.82  | 64.64  |
| 3)8/2    | 2.70  | 4.27  | 4.55  | 4.47  | 4.64  | 5.07  | 5.42  | 2.79  | 33.91  |
| 4)9/15   | 5.45  | 7.84  | 7.45  | 7.08  | 6.53  | 7.58  | 7.63  | 7.29  | 56.85  |
| Total    | 15.75 | 27.04 | 23.07 | 22.43 | 22.41 | 26.97 | 27.26 | 21.15 | 186.08 |

| Source         | df | SS      | MS      | F        |
|----------------|----|---------|---------|----------|
| Rep            | 1  | .5220   | .5220   | 1.24     |
| Var            | 7  | 13.2940 | 1.8991  | 4.50*    |
| Error (a)      | 7  | 2.9541  | .4220   |          |
| Cuttings       | 3  | 52.8101 | 17.6034 | 94.35 ** |
| VTR x cuttings | 21 | 4.0755  | .1941   | 1.06     |
| Error (b)      | 24 | 4.3841  | .1827   |          |
| Total          | 63 | 78.0398 |         |          |

| VAR | I     | VIII  | V     | IV    | III   | VI    | II    | VII   |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|
|     | 1.969 | 2.644 | 2.801 | 2.804 | 2.884 | 3.371 | 3.380 | 3.408 |

| Cuttings | 1     | 3     | 4     | 2     |
|----------|-------|-------|-------|-------|
|          | 1.918 | 2.119 | 3.553 | 4.040 |

LSD at 5% level .7681

CV " " " .223

## WEST VIRGINIA

1955 Alfalfa Breeding and Genetic Investigations  
at the West Virginia Agricultural Experiment  
Station - Morgantown  
Dale A. Ray

For the observation and evaluation of prospective entries for the development of an alfalfa breeding program, a collection of varieties, foreign plant introductions and persistent local selections were space planted in a source nursery in 1953. Additional entries were added in 1954 and 1955 as replacements for non-hardy materials. In 1955, nine varieties, twenty-one foreign introductions, and six local collections, selected on the basis of previous observations, were evaluated for forage yield, winter survival, vigor, leafiness, leaf color and disease and insect tolerance. The various entries were observed to exhibit differential reactions to leaf spot, black stem and spittle bug injury. Several foreign introductions, including PI.199,275 and PI.199,277 from Portugal, PI.199,278 from South Africa, and PI.205,198 and PI.206,900 from Turkey, appeared to offer promise of contributing vigor in alfalfa hybridizations. Entries from Turkey, Iran, Peru, and Argentina were highly susceptible to winter injury.

Individual plants were harvested in three cuttings in samples of four random plants from each entry for determination of forage yield potential. Plants from Rhizoma, Narragansett, and Williamsburg varieties ranked in the order named to lead in forage production, producing an average yield for the season of over three pounds of green forage and approximately one pound of dry matter per plant. Two collections made from persistent local stands of alfalfa, and two introductions from Portugal were also outstanding in forage yield.

Individual plant selections are being tested further in hybridizations and evaluated as germ plasma for synthetic breeding. Other crosses were made in the greenhouse for the purpose of studying the inheritance of certain differential morphological characteristics of the alfalfa entries.





